PRESENTED BY
DR. A. S. WARTHIN.

Hospital Library

The New England JOURNAL of MEDICINE

FORMERLY THE BOSTON MEDICAL AND SURGICAL JOURNAL

Official Organ of The Massachusetts Medical Society
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The New England Surgical Society — The Boston Surgical Society, Inc.
The New England Pediatric Society — The New Hampshire Surgical Club
And The New England Obstetrical and Gynecological Society

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Campbell's New "Orthopedics"

Dr. Campbell's "Orthopedics" strikes a new and refreshing note in the presentation of this subject. It robs orthopedics of many of its traditional difficulties, because methods are stated simply, because practical technic is detailed, and because the whole subject is covered completely, leaving nothing to guesswork.

THE DIAGNOSIS of orthopedic conditions receives unusual consideration. A special chapter is given over to *orthopedic examination,* outlining a logical and effective system for examining each member or part, and including a presentation of the normal.

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This new presentation of orthopedics conforms throughout to modern thought and practice. It is a book that has a very decided appeal to every general practitioner, every surgeon, and every orthopedist. Its *507 illustrations* give it added practical value.

Octavo volume of 705 pages, with 507 illustrations. By WILLIS C. CAMPBELL, M.D., F.A.C.S., Professor of Orthopedic Surgery, University of Tennessee. Cloth, $8.50 net.

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The Massachusetts Medical Society

The next annual meeting of the Massachusetts Medical Society will be held in Boston, Monday, Tuesday and Wednesday, June 8, 9 and 10, 1931.

OFFICERS AND STANDING COMMITTEES ELECTED BY THE COUNCIL, JUNE 17, 1930

PRESIDENT: ROBERT B. GREENOUGH, 8 Marlborough Street, Boston.
VICE-PRESIDENT: THOMAS H. McCARTHY, 142 Main Street, Brockton.
SECRETARY: WALTER L. BURRAGE, 182 Walnut Street, Brookline.
TREASURER: ARTHUR K. STONE, Auburn Street, Framingham Center.

STANDING COMMITTEES FOR 1930-1931

COMMITTEE OF ARRANGEMENTS
H. Q. Gallupe, T. H. Lanman, F. H. Colby, G. P. Reynolds, W. M. Shedden.

COMMITTEE ON PUBLICATIONS
Homer Gage, J. W. Bartol, R. I. Lee, R. B. Osgood, E. W. Taylor.

COMMITTEE ON MEMBERSHIP AND FINANCE
D. N. Blakely, Algernon Coolidge, Gilman Osgood, G. C. Caner, J. E. Fish.

COMMITTEE ON ETHICS AND DISCIPLINE
David Cheever, W. D. Ruston, S. F. McKeen, A. C. Smith, R. L. DeNormandie.

COMMITTEE ON MEDICAL EDUCATION AND MEDICAL DIPLOMAS
P. P. Johnson, H. P. Stevens, C. H. Lawrence, C. A. Sparrow, E. S. Calderwood.

COMMITTEE ON STATE AND NATIONAL LEGISLATION
R. B. Greenough, T. J. O'Brien, F. E. Jones, Shields Warren, A. W. Marsh.

COMMITTEE ON PUBLIC HEALTH
Dwight O'Hara, E. F. Cody, T. F. Kenney, F. G. Curtis, G. N. Hoeffel.

COMMITTEE ON MALPRACTICE DEFENCE
F. G. Balch, E. D. Gardner, F. B. Sweet, R. P. Watkins, A. W. Allen.

OFFICERS OF THE SECTIONS FOR 1931

ELECTED BY THE SECTIONS

SECTION OF MEDICINE
Chairman, Cadis Phipps, Brookline; *Secretary*, F. Dennette Adams, Boston.

SECTION OF SURGERY
Chairman, G. A. Moore, Brockton; *Secretary*, F. C. Newton, Boston.

SECTION OF TUBERCULOSIS
Chairman, S. H. Remick, Reading; *Secretary*, Roy Morgan, Westfield.

SECTION OF PEDIATRICS
Chairman, Fred H. Allen, Holyoke; *Secretary*, Joseph Garland, Boston.

SECTION OF OBSTETRICS AND GYNECOLOGY
Chairman, A. K. Paine, Boston; *Secretary*, F. J. Lynch, Boston.

SECTION OF RADIOLOGY AND PHYSIOTHERAPY
Chairman, A. H. Ring, Arlington Heights; *Secretary*, Ralph D. Leonard, Melrose.

OFFICERS OF THE DISTRICT MEDICAL SOCIETIES

ELECTED BY THE DISTRICT MEDICAL SOCIETIES BETWEEN APRIL 15 AND MAY 15, 1930

(The street addresses of the officers may be obtained from the Annual Directory.)

BARNSTABLE—*President*, H. D. Handy, Harwich; *Vice-President*, C. J. Bell, Wellfleet; *Secretary*, J. I. B. Vail, Hyannis; *Treasurer*, H. B. Hart, Yarmouthport; *Librarian*, E. E. Hawes, Hyannis.

BERKSHIRE—*President*, B. W. Paddock, Pittsfield; *Vice-President*, P. J. Sullivan, Dalton; *Secretary*, H. J. Downey, Pittsfield; *Treasurer*, C. T. Leslie, Pittsfield.

BRISTOL NORTH—*President*, T. J. Robinson, Taunton; *Vice-President*, B. M. Latham, Mansfield; *Secretary*, J. L. Murphy, Taunton; *Treasurer*, J. V. Chatigny, Taunton.

BRISTOL SOUTH—*President*, W. A. Nield, New Bedford; *Vice-President*, G. C. King, Fall River; *Secretary and Treasurer*, Charles Shanks, New Bedford.

ESSEX NORTH—*President*, J. E. Bryant, Haverhill; *Vice-President*, H. H. Nevers, Lawrence; *Secretary and Treasurer*, E. S. Bagnall, Groveland.

ESSEX SOUTH—*President*, N. P. Breed, Lynn; *Vice-President*, H. E. Whitaker, Gloucester; *Secretary*, R. E. Stone, Beverly; *Treasurer*, Andrew Nichols, 3rd, Danvers; *Librarian*, C. M. Cobb, Lynn.

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HAMPDEN—*President*, M. W. Pearson, Ware; *Vice-President*, G. L. Schadt, Springfield; *Secretary and Treasurer*, H. L. Smith, Springfield.

HAMPSHIRE—*President*, J. G. Hanson, Northampton; *Vice-President*, C. H. Wheeler, Haydenville; *Secretary and Treasurer*, F. E. O'Brien, Haydenville; *Librarian*, Jane B. Armstrong, Northampton.

MIDDLESEX EAST—*President*, James Blenkhorn, Stoneham; *Vice-President*, J. H. Blaisdell, Winchester; *Secretary*, A. R. Cunningham, Winchester; *Treasurer*, Richard Dutton, Wakefield; *Librarian*, J. M. Wilcox, Woburn.

MIDDLESEX NORTH—*President*, J. A. Mehan, Lowell; *Vice-President*, G. F. Martin, Lowell; *Secretary*, T. A. Stamas, Lowell; *Treasurer*, M. D. Bryant, Lowell; *Librarian*, P. J. Meehan, Lowell.

MIDDLESEX SOUTH—*President*, Fresenius Van Nüys, Weston; *Vice-President*, F. W. Gay, Malden; *Secretary*, A. A. Levi, Cambridge; *Treasurer*, Edward Mellus, Newton.

NORFOLK—*President*, W. A. Lane, Milton; *Vice-President*, W. B. Keeler, Roxbury; *Secretary*, F. S. Cruickshank, Milton; *Treasurer*, G. W. Kaan, Reading.

NORFOLK SOUTH—*President*, G. M. Sheahan, Quincy; *Vice-President*, M. T. Sweeney, Quincy; *Secretary, Treasurer and Librarian*, N. R. Pillsbury, South Braintree.

PLYMOUTH—*President*, F. W. Murdock, Brockton; *Vice-President*, J. J. McNamara, Brockton; *Secretary*, G. A. Moore, Brockton; *Treasurer*, A. C. Smith, Brockton; *Librarian*, J. H. Weller, Bridgewater.

SUFFOLK—*President*, G. S. Derby, Boston; *Vice-President*, Reginald Fitz, Boston; *Secretary*, L. S. McKittrick, Boston; *Treasurer*, John Rock, Boston.

WORCESTER—*President*, J. W. O'Connor, Worcester; *Vice-President*, E. L. Hunt, Worcester; *Secretary*, E. C. Miller, Worcester; *Treasurer*, R. J. Ward, Worcester; *Librarian*, A. C. Getchell, Worcester.

WORCESTER NORTH—*President*, R. C. Jones, Fitchburg; *Vice-President*, H. R. Nye, Leominster; *Secretary*, C. H. Jennings, Fitchburg; *Treasurer*, F. H. Thompson, Jr., Fitchburg.

Fellow Members! We want your support.

The New England
Journal of Medicine

VOLUME 203 JULY 17, 1930 NUMBER 3

The Massachusetts Medical Society

PROCEEDINGS OF THE SOCIETY

First Day, June 17, 1930

THE one hundred and forty-ninth Anniversary was observed in Plymouth. Registration of those attending was begun in the Plymouth Memorial Building at nine o'clock, a. m., June 17. The Sections of Medicine, Obstetrics and Gynecology, and of Tuberculosis held their meetings in the halls of that building during the day, according to the programs which had been sent to all the Fellows a month in advance and also published in the official organ of the Society in the issue of June 5. A commercial exhibit by 24 different firms in the foyer of the building and a scientific Cancer Exhibit and a Scientific Fracture Exhibit by Fellows of the Society occupied much attention. The Supervising Censors held their annual meeting at 11.30 o'clock and elected a committee to prepare examination papers for the ensuing year. The Council met in the auditorium at noon, recessed for luncheon at one o'clock, reconvened at two o'clock and adjourned at 3.50 p. m., the attendance being 117. (See Proceedings of the Council*.) At one o'clock all of the registered Fellows and invited guests were entertained in the Armory, across the street from the Memorial Building, at a luncheon given by the Society, the attendance being 564. In the evening the Shattuck Lecture was delivered in the Upper Hall by Dr. W. Irving Clark of Worcester with the subject: Industrial Medicine and Public Health, a good sized audience being present.

Following the lecture there was an excellent vaudeville entertainment by local talent in the auditorium and then dancing and refreshments which were enjoyed by about 650 Fellows and guests. Many took pleasure in seeing the historical sights of Plymouth during the meeting, being materially aided by the "Guide to Plymouth", printed in the illustrated booklet furnished by the Committee of Arrangements. Tableaux depicting the life of the Pilgrims were shown between five and six o'clock in Kendall Hall of the First Church and the ladies were taken to points of interest in sightseeing busses.

Second Day, Wednesday, June 18, 1930

The Sections of Surgery, Pediatrics, and Radiology and Physiotherapy held their meetings during the day in the Memorial Building. At noon the Annual Meeting of the Massachusetts Medical Society was called to order by the President in the auditorium. The minutes of the last meeting were read by the Secretary and accepted. The Secretary read the following statistics as to membership and they were approved:

Membership of the Society, June 12, 1929		4542
Lost:		
By death	89	
By resignation	10	
By deprivation (a and b)	13	
Total loss	112	
Gained:		
New Fellows	183	
Restored by Council	9	
Total gain	192	
Deduct loss	112	
Total net gain	80	80
Membership of the Society, June 18, 1930		4622

The Secretary read a communication from the George Washington Bicentennial Commission, of Washington, D. C., asking the coöperation and moral support of the work of the Commission in arranging a suitable celebration of the coming bicentennial anniversary of the birth of George Washington in 1932. On motion by Dr. H. F. Day of Middlesex South this was referred to the Council for action.

The Chair announced that there were present as delegates: Dr. David W. Parker of Manchester, New Hampshire, Dr. F. B. Ames of Bangor, Maine, and Dr. Walter L. Hogan of Hartford, Connecticut. Dr. Parker addressed the meeting briefly, bringing the good wishes from the New Hampshire Medical Society and saying that he would speak at length on the New England Medical Council at the Annual Dinner in the evening. Dr. David Cheever, Suffolk, said that he could not let the occasion pass without offering acknowledgment to the committee of the Plymouth District Medical Society and more especially to the local committee of arrangements and the Plymouth Chamber of Commerce for the delightful entertainment that had been given the Society. The chairman of the standing committee of arrangements with the local aids had been unremitting in their labors from

*Page 49, issue of July 10, 1930.

early in the spring until the present moment with the most gratifying results. He moved that the thanks of the Society be given them for a most successful meeting, and it was so voted.

The Annual Discourse was delivered by Dr. Henry A. Christian of Boston with the title: The Practitioners' Need of an Intelligent Skepticism. Dr. J. W. Bartol, Suffolk, moved a vote of thanks to the orator for his admirable discourse. He felt that the Society had been both honored and educated. On being put to a vote it was passed unanimously. The attendance was 90. Adjournment was voted at 1.20 p. m.

The Annual Dinner was served in the Armory at 6.30 p. m., 284 Fellows and guests being present. The President introduced Frederic W. Cook, Secretary of the Commonwealth, who brought the greetings of His Excellency Frank G. Allen, Governor of Massachusetts and spoke of the important place filled by the physicians of the State. Addresses were made by Mr. W. T. Eldridge, Chairman of the Board of Selectmen, and Mr. Fred A. Jenks of the Plymouth Cordage Company, and by Mr. Robert G. Dodge, Counsel of the Massachusetts Medical Society, who spoke on malpractice defence. Dr. David W. Parker described the present status of the New England Medical Council. Dr. Joseph Garland, Associate Editor of the *New England Journal of Medicine,* read an address entitled: "Modern Trend in General Practice", and the meeting was brought to a close by an interesting talk by the Rev. Alfred R. Hussey, Minister of the First Parish Unitarian Church of Plymouth, who spoke in praise of the first physician of the Pilgrims, Dr. Samuel Fuller, the first medical biographer and historian, Dr. James Thacher of Plymouth, and the present day physicians of the town.

The total registered attendance at the two-day meeting was 799, representing 524 physicians and 275 guests.

The attendance at each of the meetings of the six Sections and the officers elected by the Sections for the year 1930-1931 follow:

SECTION OF MEDICINE: Attendance 150.
Officers:
Chairman, Cadis Phipps, Brookline.
Secretary, F. D. Adams, Boston.

SECTION OF SURGERY: Attendance 100.
Officers:
Chairman, G. A. Moore, Brockton.
Secretary, F. C. Newton, Boston.

SECTION OF TUBERCULOSIS: Attendance 104.
Officers:
Chairman, S. H. Remick, Reading.
Secretary, Roy Morgan, Westfield.

SECTION OF PEDIATRICS: Attendance 110.
Officers:
Chairman, F. H. Allen, Holyoke.
Secretary, Joseph Garland, Boston.

SECTION OF OBSTETRICS AND GYNECOLOGY: Attendance 208.
Officers:
Chairman, A. K. Paine, Boston.
Secretary, F. J. Lynch, Boston.

SECTION OF RADIOLOGY AND PHYSIOTHERAPY: Attendance 90.
Officers:
Chairman, A. H. Ring, Arlington Heights.
Secretary, R. D. Leonard, Boston.

WALTER L. BURRAGE, *Secretary.*

THE MASSACHUSETTS MEDICAL SOCIETY

OFFICERS ELECTED BY THE COUNCIL, JUNE 17, 1930

President: Robert B. Greenough, Boston, 8 Marlborough Street.

Vice-President: Thomas H. McCarthy, Brockton, 142 Main Street.

Secretary: Walter L. Burrage, Brookline, 182 Walnut Street.

Treasurer: Arthur K. Stone, Framingham Center, Auburn Street.

STANDING COMMITTEES FOR 1930-1931

Of Arrangements
H. Q. Gallupe, T. H. Lanman, F. H. Colby, G. P. Reynolds, W. M. Shedden.

On Publications
Homer Gage, J. W. Bartol, R. I. Lee, R. B. Osgood, E. W. Taylor.

On Membership and Finance
D. N. Blakely, Algernon Coolidge, Gilman Osgood, G. C. Caner, J. E. Fish.

On Ethics and Discipline
David Cheever, W. D. Ruston, S. F. McKeen, A. C. Smith, R. L. DeNormandie.

On Medical Education and Medical Diplomas
P. P. Johnson, H. P. Stevens, C. H. Lawrence, C. A. Sparrow, E. S. Calderwood.

On State and National Legislation
R. B. Greenough, T. J. O'Brien, F. E. Jones, Shields Warren, A. W. Marsh.

On Public Health
Dwight O'Hara, E. F. Cody, T. F. Kenney, F. G. Curtis, G. N. Hoeffel.

On Malpractice Defense
F. G. Balch, E. D. Gardner, F. B. Sweet, R. P. Watkins, A. W. Allen.

SPECIAL COMMITTEES
1930-1931

On New England Medical Council
W. P. Bowers, B. W. Paddock, T. H. Lanman, R. B. Greenough, J. M. Birnie.

On Cancer
W. P. Graves, G. H. Bigelow, F. G. Balch, P. E. Truesdale, G. F. Martin.

On Permanent Home
T. J. O'Brien, S. B. Woodward, Henry Colt, C. G. Mixter, J. M. Birnie, R. B. Greenough, W. G. Phippen.

Representatives to Massachusetts Central Health Council

On Administrative Board
Dwight O'Hara, F. G. Curtis

District Representatives
Eastern: E. P. Joslin, T. M. Durell.
Northeastern: Joseph A. Mehan, Frank W. Snow.
Southeastern: W. D. Kinney, C. P. Curley.
Central: Thomas F. Kenney, Ray W. Greene.
Western: Hugh J. Downey, George D. Henderson.

Committee on the One Hundred and Fiftieth Anniversary

F. B. Lund, J. W. Bartol, E. H. Bigelow, J. M. Birnie, W. P. Bowers, D. Cheever, H. Q. Gallupe, J. Garland, L. S. McKittrick, G. C. Shattuck, H. R. Viets, S. B. Woodward, A. Worcester, W. L. Burrage.

Committee to Examine Papers and Possessions in the Vault

W. L. Burrage, E. W. Taylor, G. C. Caner.

Committee to Consider Any Changes in the Boundaries of the Bristol North and the Plymouth Districts

W. A. Lane, G. M. Sheahan, W. A. Nield, H. D. Handy, D. N. Blakely.

DELEGATES AND ALTERNATES TO THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

DELEGATES	ALTERNATES
F. B. Lund, Boston.	W. H. Robey, Boston.
E. F. Cody, New Bedford.	P. E. Truesdale, Fall River.
R. I. Lee, Boston.	C. H. Lawrence, Boston.
H. G. Stetson, Greenfield.	W. C. Leary, Springfield.
C. E. Mongan, Somerville.	L. S. McKittrick, Boston.
J. F. Burnham, Lawrence.	E. L. Hunt, Worcester.

PRESIDENTS OF DISTRICT MEDICAL SOCIETIES

VICE-PRESIDENTS (*Ex-Officiis*)

Arranged according to seniority of fellowship in the Massachusetts Medical Society

T. J. Robinson, Taunton.
M. W. Pearson, Ware.
W. A. Lane, Milton.
N. P. Breed, Lynn.
J. G. Hanson, Northampton.
F. W. Murdock, Brockton.
J. E. Bryant, Haverhill.
G. S. Derby, Boston.
R. C. Jones, Fitchburg.
James Blenkhorn, Stoneham.
J. A. Mehan, Lowell.
B. W. Paddock, Pittsfield.
Fresenius Van Nüys, Weston.
G. M. Sheahan, Quincy.
J. W. O'Connor, Worcester.
H. D. Handy, Harwich.
W. A. Nield, New Bedford.
H. M. Kemp, Greenfield.

ADMISSIONS RECORDED FROM JUNE 12, 1929 TO JUNE 18, 1930

Year of Admission		Residence	Medical College
1930	Abrams, Jacob,	Winthrop	10
1929	Albright, Fuller,	Boston	11
1929	Allen, Eugene Edward,	Lowell	12
1930	Alport, Benjamin,	Springfield	12
1930	Amarantes, Albert Roland,	New Bedford	7
1929	Auld, Eugene Greenleaf,	Malden	12
1930	*Baghdoyan, Nerses Manoug,	Winchester	36
1929	Ballantyne, George William,	Worcester	11
1929	Barre, Joseph Seaton,	Newton Centre	11
1930	Baty, James Marvin,	Boston	11
1929	Belhumeur, Gedeon Aram,	Gardner	13
1929	Belson, Maurice Oscar,	Chelsea	12
1929	Blyth, Henry Higginson Armand,	Quincy	10
1930	Boutelle, Louisa Elizabeth,	Taunton	32
1929	*Braverman, Harry,	Quincy	31
1930	Brenner, Jacob,	North Easton	12
1930	*Brooks, William Granville,	Arlington	6
1929	Brown, Harold Frederick,	Newton Centre	11
1929	Brown, Sampson,	Medford	12
1929	Brown, Samuel,	Fall River	11
1930	Burke, John William,	Wakefield	11
1929	Caron, Gerald Hamelin,	North Reading	13
1929	Carr, Frank Benjamin,	Worcester	11
1930	Christophe, Kenneth,	Needham	10
1930	Chute, Richard,	Boston	11
1930	Clapp, Roland Davis,	West Medford	10
1929	Clifford, Stewart Hilton,	Brookline	11
1929	Cluney, William Thomas,	Medfield	25
1930	Collins, Wylie Louis,	Nantucket	11
1929	*Colloten, Frank Bernard,	Boston	6
1930	Comninos, Cyrus Dimitri,	Boston	10
1930	Cooney, Edward Anthony,	Newton Centre	11
1929	Copeland, Stanley Earle,	Wellesley Hills	11
1930	*Correa, John Francis, Jr.,	Boston	6
1929	Cottrell, Samuel Smith,	Medfield	10
1930	*Cowan, Clyde Robert,	Boston	6
1930	Creager, Florence Isabelle,	Woburn	30
1929	*Cristiano, Edward Joseph,	Pittsfield	31
1930	Danforth, Clifford Franklyn,	Weymouth	12
1930	Davis, William Edwin,	Boston	11
1929	Day, Kenneth Knowlton,	Malden	10
1929	Denning, Walter Stephen,	Salem	7
1930	Derow, Harry Aaron,	Boston	10
1929	Desautels, Antonio Paul,	Pittsfield	13
1930	Dinan, Thomas Edward,	Wakefield	12
1929	Doolittle, Lawrence Howard,	Springfield	10
1929	Doyle, Roger Thomas,	Roxbury	12
1929	Dresser, Richard,	Chestnut Hill	18
1929	Dufault, Paul,	Rutland	13
1929	Dumas, Charles Edward,	Wrentham	10
1929	Dunphy, Herbert George,	Boston	4
1929	Elliott, Simeon,	Roxbury	11
1930	Engelbach, Albert George,	Boston	4
1929	Epstein, Samuel Hyman,	Jamaica Plain	11
1930	Faber, Max,	Cambridge	10
1930	Falcon-Lesses, Mark,	Boston	11
1930	Fay, John Howard,	Boston	11
1929	Feeley, Edward Warren,	Arlington	12
1929	Ferrini, Peter,	Middleborough	11
1930	FitzHugh, Greene Smith,	Brookline	11
1929	Freedman, Edward Philip,	Lynn	12
1929	Freedman, Harold Jacob,	Brighton	11
1930	George, Arnold Phillips,	Haverhill	16
1930	Gibson, Stewart Merrill,	Southbridge	12
1929	Gilbert, Meyer Manus,	Malden	12
1930	Goduti, Emil,	Somerville	28
1930	Goodale, Raymond Hamilton,	Worcester	11
1930	Green, Abraham,	Brookline	11
1929	*Grossman, Julius,	Roxbury	6
1930	Groves, Pattie Johnson,	South Hadley	8
1929	Guild, Bertha Lulu Cameron,	Braintree	10
1930	Guthrie, Riley Henry,	Palmer	21
1929	Hageman, Herbert Corle,	Chester	26
1930	Halbersleben, David Lucian,	Roslindale	11
1929	Haley, William Wallace,	Cambridge	12
1929	Hampton, Aubrey Otis,	Cambridge	33
1930	Harissis, John Theodore,	Cambridge	12
1929	Heifetz, Ralph,	Lowell	12
1929	Hopkins, Edward Baldwin,	Ayer	17
1930	Hunter, William Andrew,	Gardner	9
1930	Ingall, Morris,	Boston	11
1930	*Jacobs, Guy Rigby,	Marblehead	6
1930	Johnson, Allen Sheppard,	Springfield	11
1930	Johnston, Reginald Fulton,	Concord	11
1930	Jones, Thomas Duckett,	Brookline	23

1930	Jordan, William Riely, Roxbury	23
1929	Kernan, Clement Friel, Pittsfield	12
1929	Kickham, Charles Joseph Edward, Jamaica Plain	11
1929	King, Leopold Firman, Lowell	10
1929	King, Richard Bruce, Cambridge	11
1929	Komisar, Paul Stanislaw, Westfield	12
1930	Kramer, Sidney David, Roslindale	2
1930	Laczynski, Francis Stephen, Stamford, Conn.	24
1930	Lancaster, Harland Francis, Boston	10
1930	Landry, Joseph Napoleon, Everett	13
1929	Laroche, Armand, Rutland	13
1929	Lavrakas, Robert Constantine, Belmont	12
1930	La Zerte, Leonard Clarence, Chicopee	9
1930	Le Brecht, William George, Brighton	12
1929	Ledoux, Alfred Campbell, Whitman	12
1930	LeDrew, Frederick, Mattapan	15
1930	Livermore, Denny Wood, Foxborough	10
1929	Lord-Heinstein, Esther Lucile, Dorchester	12
1929	*Mack, Frank Andrew, Jamaica Plain	6
1930	MacPhee, William Malcolm, Quincy	14
1929	Marlow, Frank William, Jr., Brookline	11
1929	Mayell, Ernest Alfred, Acton	12
1929	McCann, James Cole, Worcester	11
1929	McGoogan, Leon Steiner, Fall River	17
1930	McIntosh, Ronald, Taunton	10
1929	McLaughlin, Cecil Cleophus, Worcester	10
1929	McLaughlin, Hugh Joseph, Canton	34
1929	McLean, Joseph Altira, Ayer	17
1929	McMahon, William Thomas, Pittsfield	3
1929	McSweeney, Daniel Joseph, Dorchester	11
1929	Meehan, James Joseph, Dorchester	11
1929	Menard, Oliver Joseph, Boston	16
1930	Merrill, Wiggin Lyon, Taunton	10
1929	Moran, John Edward, Springfield	3
1930	Morris, Robert Hartshorne, Boston	15
1929	*Nauen, Charles Otto, Somerville	20
1929	Navarro, Vicente Aguirre, Medfield	3
1929	Norman, Jacob, Roxbury	10
1930	O'Brien, Thomas Robert, Lynn	12
1929	Olson, Joseph Merrill, Westborough	10
1930	Ostrom, Hjalmar, Quincy	34
1930	Page, Peirson Sterling, Andover	29
1929	Palermo, Alfonso Albert, Wrentham	11
1930	Pallo, John, Westfield	11
1929	Parkhurst, Irving Wright, Cambridge	27
1929	Perry, Edward Louis, Middleborough	10
1929	Peterson, Thomas Howard, Boston	25
1930	*Petterson, Herman Charles, West Roxbury	22
1929	Pidgeon, Ira Sanborn, Brookline	14
1929	Pierce, Helen Frances, Plymouth	10
1929	*Pierce, John Austin, North Adams	6
1930	Pratt, Theodore Cary, Boston	11
1930	Reardon, John Paul, Boston	11
1929	Reynolds, Edward Joseph, Malden	11
1929	Robert, John Baptiste Wilfrid, New Bedford	12
1930	*Robertson, Charles Warner, Amherst	35
1929	Ronan, Arthur Thomas, Dorchester	11
1930	Rosenthal, Joseph, Roxbury	12
1930	Rounsefell, Clifford George, Wellesley	11
1930	*Royal, Harold Orison Fowler, Malden	6
1929	Ryan, Mildred Louise, Brockton	12
1930	Segool, Samuel Hirsh, Boston	11
1929	Semenenko, Helen, Cambridge	12
1929	*Seymour, Joseph Charles, Worcester	20
1930	Shattuck, Edwin Chase, New Bedford	17
1930	Sheedy, John Francis, Lawrence	3
1929	Shefferd, Jeannette Marie, Bristol Ferry, R. I.	34
1929	Sherwin, Herbert, Fall River	11
1929	Shyavitz, Max Herman, Lowell	12
1930	Simmons, Nathan Joseph, Brookline	12
1929	Simpson, Oscar Salisbury, Falmouth	11
1930	Starr, Arnold, South Boston	12
1930	Stewart, Ann Hoague, Cambridge	2
1930	Sweet, Richard Harwood, Brookline	11
1929	Swift, William Herbert, Taunton	12
1930	Tadgell, Henry Allen, Salem	12
1930	Talbot, Bertell Laroy, Rutland	11
1929	*Tasker, Frank Edwin, Acton	35
1930	Tauro, Antonio Luigi, Stoneham	10
1929	Taylor, Edward Hanlin, Boston	11
1929	Tenney, Benjamin Jr., Boston	11
1929	Tolman, Myer Maurice, Worcester	11
1930	Turner, Henry Charles, Boston	10
1929	Vaccaro, Francis Joseph, Pittsfield	5
1930	Van Gorder, George Wilson, Waban	11
1929	*Vassallo, John Edward, Malden	20
1929	Watson, Lester Dow, East Milton	10
1929	*Weiner, Simeon, Lawrence	31
1930	Weiss, Bernard, Roxbury	12
1929	Wells, Clinton Cyrus, Fall River	12
1929	Whitney, Dorothea Farnham, North Reading	17
1929	Whittier, Alice Augusta Skolfield, Baldwinsville	1
1930	Wiestling, Helen Merwin, Framingham	10
1929	Wood, John LeRoy, Lawrence	12
1929	Woodbridge, Philip Dudley, Waban	11
1930	York, Robert Stack, Watertown	19
1929	Yorshis, Morris, Worcester	12
1930	Young, Albert Gayland, Newton Highlands	11

*Indicates that the candidate's diploma was approved by the Committee on Medical Education and Medical Diplomas.

Total 183.

KEY TO MEDICAL COLLEGES

1. Yale University School of Medicine
2. Columbia University College of Physicians and Surgeons
3. University of Maryland School of Medicine and College of Physicians and Surgeons
4. University of Michigan Medical School
5. St. Louis University School of Medicine
6. Middlesex College of Medicine and Surgery
7. University of Vermont College of Medicine
8. Woman's Medical College of Pennsylvania
9. McGill University Faculty of Medicine
10. Boston University School of Medicine
11. Harvard University Medical School
12. Tufts College Medical School
13. University of Montreal Faculty of Medicine
14. Dalhousie University Faculty of Medicine
15. University of Toronto Faculty of Medicine
16. Jefferson Medical College of Philadelphia
17. University of Pennsylvania School of Medicine
18. Johns Hopkins University School of Medicine
19. Georgetown University School of Medicine
20. College of Physicians and Surgeons, Boston
21. University of Tennessee College of Medicine
22. Hahnemann Medical College, Chicago
23. University of Virginia Department of Medicine
24. Loyola University School of Medicine
25. Northwestern University Medical School
26. Albany Medical College
27. Cornell University Medical College
28. Syracuse University College of Medicine
29. University and Bellevue Hospital Medical College
30. University of Buffalo School of Medicine
31. St. Louis College of Physicians and Surgeons
32. University of Minnesota Medical School
33. Baylor University College of Medicine, Texas
34. Creighton University School of Medicine, Nebraska
35. Dartmouth Medical School
36. Ottoman Medical School of Constantinople

DEATHS REPORTED FROM JUNE 12, 1929, TO JUNE 18, 1930

Admitted	Name	Place of Death	Date of Death	Age
1901	Allen, Freeman	Boston	May 3, 1930	59
1893	†Amadon, Arthur Frank	Troy, N. Y.	Mar. 29, 1930	71
1889	Bates, Everett Alanson	Springfield	Jan. 24, 1930	69
1919	Blanchard, Randall Howard	Pittsfield	Mar. 14, 1930	58
1881	Bowditch, Vincent Yardley	Boston	Dec. 20, 1929	77

1902	Brennan, Joseph Thomas Louis	Lowell	May	4, 1928	51
1874	†Brooks, Lawton Stickney	Springfield	Apr.	26, 1930	82
1906	Brown, Wallace Everett	Fort Collins, Colo.	Apr.	5, 1930	76
1925	Cardi, Alphonso Blaise	Worcester	Feb.	20, 1930	30
1923	Caswell, Walter Wells	Brookline	June	29, 1929	50
1905	Chandler, Clarence Luther	Brooklyn, N. Y.	May	17, 1930	50
1911	Chandler, Thomas Evans	Brookline	Dec.	2, 1929	58
1888	Cilley, Daniel Plummer	Southbridge	Jan.	22, 1930	75
1901	Clarke, Genevieve	Cambridge	Jan.	29, 1930	60
1875	Cliff, Leander Albert	Boston	Dec.	1, 1929	82
1909	Connelly, John Edward	Boston	June	2, 1929	47
1905	Cox, Simon Francis	Arlington Heights	Oct.	17, 1929	55
1908	Creeley, Oscar Slade	Watertown	Mar.	29, 1930	50
1898	Croft, Benjamin Pomeroy	Greenfield	Apr.	29, 1930	59
1885	Crowell, Samuel	Dorchester	July	17, 1929	71
1888	Cummings, Mott Alvah	Winchester	June	23, 1929	67
1894	Cushman, Ella Rosalind Wylie	Boston	Aug.	24, 1929	75
1872	Cutler, Elbridge Gerry	York Harbor, Me.	June	23, 1929	82
1920	Diehl, Harold Edgar	Quincy	Feb.	14, 1930	43
1897	Drohan, James Henry	Brockton	Apr.	15, 1930	61
1928	Elkin, Samuel Nathaniel	Roxbury	Oct.	8, 1929	41
1873	†Emerson, Edward Waldo	Concord	Jan.	27, 1930	85
1903	Fennessey, John Francis	Dorchester	Apr.	11, 1930	49
1906	Fitzgerald, John Joseph	Haverhill	Oct.	19, 1929	53
1914	Forster, John Ferguson Cooke	Holyoke	Feb.	13, 1930	50
1887	French, Charles Lindol	St. Petersburg, Fla.	Nov.	18, 1929	83
1915	Grady, Thomas Henry	Clinton	Jan.	20, 1930	52
1882	†Granger, Frank Clark	New Rochelle, N. Y.	Dec.	22, 1929	80
1905	Graves, Benjamin Augustus	Forest Hills	Jan.	27, 1930	55
1884	Griffin, Arthur George	Rangeley, Me.	June	7, 1930	77
1885	†Hall, William Dudley	West Dennis	Feb.	12, 1930	73
1901	Harkins, John Francis	Worcester	Oct.	19, 1929	54
1901	Harriman, Charles Henry	Whitinsville	Feb.	12, 1930	77
1898	Hartung, Harry Hall	Boston	Sept.	4, 1929	54
1869	†Hazelton, Isaac Hills	Wellesley Hills	Aug.	5, 1929	91
1889	Hipkiss, George	Winchester	June	2, 1930	68
1900	Hixon, Edwin Colfax	Boston	Jan.	9, 1930	61
1897	Holland, Hubert Thomas	Jamaica Plain	Jan.	16, 1930	64
1900	Hurd, Albert Gordon	Millbury	June	28, 1929	59
1912	Jessaman, Leon Webster	Framingham	June	11, 1929	50
1922	Kebabjian, Hrant Setrag	Somerville	May	4, 1930	37
1928	Kirby, James Caleb	Boston	Feb.	3, 1930	36
1920	Kitsis, Henry Hyman	Cambridge	June	25, 1928	34
1896	Knight, Marcus Whitney	Roxbury	Feb.	1, 1930	68
1897	Libby, Edward Norton	Jamaica Plain	Nov.	6, 1929	61
1902	Lynch, Patrick Michael	Springfield	Aug.	12, 1929	55
1903	Magurn, Francis Thomas Louis	Charlestown	June	2, 1930	62
1911	Mahoney, Matthew Patrick	No. Tewksbury	July	3, 1929	45
1929	McClure, William Lionel	Boston	Mar.	10, 1930	36
1911	McClusky, Richard John	Lowell	May	25, 1929	56
1915	Meserve, Edwin Alonso	Newton Centre	Feb.	13, 1930	45
1895	Miller, Lester Colwell	Worcester	Nov.	7, 1929	62
1880	Millet, Charles Sumner	Brockton	Aug.	19, 1929	71
1878	Morse, Henry Lee	Medfield	Sept.	7, 1929	76
1910	Murray, Benjamin Frank	Boston	May	15, 1930	56
1903	O'Brien, Charles Thomas	Woburn	Jan.	31, 1930	56
1919	Olds, Frank William	Williamstown	Feb.	11, 1930	77
1879	Prince, Morton	Roxbury	Aug.	31, 1929	74
1894	Procter, Percy Clement	Gloucester	Apr.	2, 1930	62
1894	Putnam, Willard Abram	Cambridge	May	21, 1930	64
1883	Roche, Thomas Francis	Woonsocket, R. I.	Mar.	8, 1930	74
1923	Rothwell, Charles Robert	South Boston	Jan.	23, 1930	59
1883	Sawyer, Edward Allen	Gardner	Dec.	24, 1929	72
1894	Sherman, Mary Hastings	Worcester	Apr.	15, 1930	61
1869	†Shreve, Octavius Barrell	Salem	Mar.	13, 1930	88
1897	Smith, Peter Matthew	Boston	Oct.	13, 1929	60
1905	Smyth, Patrick Somers	Boston	Oct.	28, 1929	52
1899	Snow, Frederick Stedman	Roxbury	July	2, 1929	56
1880	Stimson, John Woodbury	Templeton	July	3, 1929	74
1894	Stone, James Savage	Framingham	Sept.	29, 1929	61
1854	†Stone, Lincoln Ripley	Newton	Feb.	17, 1930	97
1889	†Sullivan, William Joseph	Lawrence	June	25, 1929	69
1886	†Tenney, John Arthur	Boston	July	2, 1929	84
1925	Tetrault, Charles Arthur	Southbridge	Apr.	8, 1930	53
1891	Tully, Edward Joseph	Fitchburg	May	31, 1930	59
1904	Tyrode, Maurice Paul Octave Véjux	Boston	June	4, 1930	51
1908	Waite, Lucy Carlton Reed	Southbridge	Dec.	27, 1929	47
1917	Wallace, John	Roxbury	Dec.	2, 1929	59
1886	Ward, George Otis	Brighton	Apr.	22, 1930	75
1910	White, Arthur Joseph	Mattapan	July	24, 1929	53

1894	White, Belle Joanne Platt	Springfield	Mar. 31, 1930	58
1882	†White, Herbert Warren	Roxbury	Nov. 24, 1929	71
1882	Williams, Joseph	Boston	May 4, 1930	79
1889	Wood, Norman Perkins	Northfield	July 23, 1929	83

†Retired Fellow.

Total number of deaths, 89.

COUNCILORS—1930-1931

ELECTED BY THE DISTRICT MEDICAL SOCIETIES AT THEIR ANNUAL MEETINGS, APRIL 15 TO MAY 15, 1930

NOTE:—The initials M. N. C. following the name of a Councilor indicate that he is a member of the Nominating Committee. V. P. indicates that a member is a Councilor by virtue of his office as President of a district society and so Vice-President of the general society. C. indicates that he is chairman of a standing committee, Sec. that he is secretary of his District Society.

BARNSTABLE

H. D. Handy, V. P., Harwich.
W. D. Kinney, M. N. C., Osterville.
E. S. Osborne, West Dennis.
J. I. B. Vail, Sec., Hyannis.

BERKSHIRE

B. W. Paddock, V. P., Pittsfield, 7 North St.
R. J. Carpenter, North Adams, 85 Main St.
Henry Colt, M. N. C., Pittsfield, 7 North St.
H. J. Downey, Sec., Pittsfield, 184 North St.
M. S. Eisner, Pittsfield, 86 North St.
A. C. England, Pittsfield, 7 North St.
G. F. MacKay, Dalton, 695 Main St.
J. C. Roe, Pittsfield, 16 South St.

BRISTOL NORTH

T. J. Robinson, V. P., Taunton, 10 Spring St.
W. H. Allen, Mansfield, 70 North Main St.
A. R. Crandell, Taunton, 48 Church Green.
C. S. Holden, Attleborough, 7 Park St.
F. A. Hubbard, M. N. C., Taunton, 157 High St.
J. L. Murphy, Sec., Taunton, 83 Cedar St.

BRISTOL SOUTH

W. A. Nield, V. P., New Bedford, 286 Pleasant St.
J. A. Barre, Fall River, 1555 Pleasant St.
R. H. Baxter, Marion, 6 South St.
R. B. Butler, Fall River, 278 North Main St.
E. F. Cody, M. N. C., New Bedford, 105 South 6th St.
E. F. Curry, Fall River, 499 Hanover St.
D. J. Fennelly, Fall River, (Off.) 270 Commonwealth Ave., Boston.
E. D. Gardner, New Bedford, 150 Cottage St.
S. V. Merritt, Fall River, 297 Osborn St.
Charles Shanks, Sec., New Bedford, 645 Kempton St.
I. N. Tilden, Mattapoisett, Barstow St.
Russell Wood, New Bedford, 331 Union St.

ESSEX NORTH

J. E. Bryant, V. P., Haverhill, 50 Merrimack St.
H. G. Armitage, Haverhill, 119 Emerson St.
E. S. Bagnall, Sec., Groveland, 281 Main St.
J. F. Burnham, Lawrence, 567 Haverhill St.
H. F. Dearborn, Lawrence, 193 Garden St.
A. P. George, Haverhill, 397 Main St.
T. R. Healy, M. N. C., Newburyport, (Off.) 370 Marlborough St., Boston.
T. W. Murphy, Lawrence, 55 Bradford St.
F. S. Smith, North Andover, 5 Third St.
F. W. Snow, Newburyport, 24 Essex St.
L. T. Stokes, Haverhill, 190 Main St.
W. D. Walker, Andover, 121 Main St.

ESSEX SOUTH

N. P. Breed, V. P., Lynn, 9 Washington St.
F. W. Baldwin, Danvers, 25 Conant St.
J. A. Bedard, Lynn, 64 Nahant St.
C. L. Curtis, Salem, 101 Federal St.
J. F. Donaldson, Salem, 32 Lynde St.
R. E. Foss, Peabody, 125 Main St.
W. T. Hopkins, Lynn, 7 Atlantic St.
T. L. Jenkins, M. N. C., Topsfield, Prospect St.
J. F. Jordan, Peabody, 76 Lynn St.
O. S. Pettingill, Middleton, Essex Sanatorium.
C. H. Phillips, Beverly, 221 Cabot St.
W. G. Phippen, Salem, 31 Chestnut St.
R. E. Stone, Sec., Beverly, 221 Cabot St.
J. W. Trask, Lynn, 90 Ocean St.

FRANKLIN

H. M. Kemp., V. P., Greenfield, 42 Franklin St.
R. A. McGillicuddy, Turners Falls, 113 Avenue A.
Charles Moline, Sec., Sunderland, (Off.) 120 Main St., South Deerfield.
H. G. Stetson, M. N. C., Greenfield, 39 Federal St.

HAMPDEN

M. W. Pearson, V. P., Ware, 19 Pleasant St.
F. H. Allen, Holyoke, 16 Fairfield Ave.
J. M. Birnie, Ex-Pres., Springfield, 14 Chestnut St.
H. B. Chase, Westfield, Westfield State Sanatorium.
M. D. Chisholm, Westfield, 106 Elm St.
A. L. Damon, North Wilbraham, Chapel St.
W. J. Dillon, Chicopee, 121 Main St.
H. D. Gafney, Ware, 45 Main St.
G. D. Henderson, Holyoke, 312 Maple St.
M. B. Hodskins, Palmer, Monson State Hospital.
Frank Holyoke, Holyoke, 187 Walnut St.
Charles Jurist, Springfield, 70 Chestnut St.
E. A. Knowlton, Holyoke, 207 Elm St.
F. A. Mead, Willimansett, 899 Chicopee St.
A. G. Rice, M. N. C., Springfield, 33 School St.
H. L. Smith, Sec., Springfield, 249 Union St.
G. L. Steele, Springfield, 20 Maple St.

HAMPSHIRE

J. G. Hanson, V. P., M. N. C., Northampton, 219 Elm St.
A. J. Bonneville, Hatfield, 43 Main St.
F. E. O'Brien, Sec., Haydenville, Hampshire Co. Sanatorium.
F. H. Smith, Hadley, (Off.) Morgan Library, Amherst.

MIDDLESEX EAST

James Blenkhorn, V. P., Stoneham, 26 Maple Ave.
D. T. Buzzell, Wilmington, Main St.
A. R. Cunningham, Sec., Winchester, 76 Church St.
C. E. Montague, Wakefield, 15 Richardson Ave.
F. L. Smalley, Reading, 36 Woburn St.
R. R. Stratton, Melrose, 654 Main St.
F. T. Woodbury, M. N. C., Wakefield, 21 Chestnut St.

MIDDLESEX NORTH

J. A. Mehan, V. P., Lowell, 4 Park St.
M. L. Alling, Lowell, 9 Central St.
J. A. Gage, Tyngsborough, (Off.) 18 Shattuck St., Lowell.
J. H. Lambert, Lowell, 202 Merrimack St.
J. E. Lamoureux, Lowell, 763 Merrimack St.
G. A. Leahey, Lowell, 128 Merrimack St.
A. G. Scoboria, M. N. C., Chelmsford.
T. A. Stamas, Sec., Lowell, 226 Central St.

MIDDLESEX SOUTH

Fresenius Van Nüys, V. P., Weston, Central Ave.
E. A. Andrews, Newton Centre, 1298 Centre St.
C. F. Atwood, Arlington, 821 Massachusetts Ave.

C. F. K. Bean, West Medford, 51 Harvard Ave.
Conrad Bell, Waltham, 820 Main St.
E. H. Bigelow, Ex-Pres., 31 Pleasant St., Framingham Center.
A. H. Blake, West Somerville, 81 College Ave.
W. T. Burke, Medford, 112 Salem St.
W. H. Crosby, Brighton, 304 Faneuil St.
D. F. Cummings, Natick, 12 East Central St.
F. G. Curtis, West Newton, Health Dept., City Hall.
T. M. Durell, Somerville, 131 Highland Ave.
I. J. Fisher, West Newton, 79 Chestnut St.
H. H. Flagg, Charlestown, 30 Elm St.
C. B. Fuller, Waltham, 781 Main St.
H. Q. Gallupe, C., Waltham, 751 Main St.
Cora E. Harriman, Framingham, 15 High St.
F. A. Higginbotham, Watertown, 112 Mt. Auburn St.
N. M. Hunter, Hudson, 20 Lincoln St.
L. H. Jack, West Newton, 379 Austin St.
Josephine D. Kable, Marlborough, 42 West Main St.
H. J. Keaney, Everett, 385 Broadway.
A. A. Levi, Sec., Cambridge, 114 Trowbridge St.
R. W. McAllester, Everett, (Off.) 270 Commonwealth Ave., Boston.
Edward Mellus, Newton, 419 Waverley Ave.
C. E. Mongan, Somerville, 24 Central St.
J. P. Nelligan, Cambridge, 2336 Massachusetts Ave.
Dwight O'Hara, C., Waltham, 751 Main St.
A. C. Potter, Cambridge, (Off.) 520 Commonwealth Ave., Boston.
H. L. Seavey, Cambridge, 1879 Massachusetts Ave.
J. W. Sever, Cambridge, (Off.) 321 Dartmouth St., Boston.
F. G. Smith, Somerville, 145 Highland Ave.
C. H. Staples, Malden, 339 Pleasant St.
E. H. Stevens, M. N. C., Cambridge, 1911 Massachusetts Ave.
A. K. Stone, Treasurer, Framingham Centre, Auburn St.
H. W. Thayer, Newtonville, 355 Walnut St.
H. J. Walcott, Concord, 92 Main St.
H. P. Walcott, Ex-Pres., Cambridge, 11 Waterhouse St.
H. R. Webb, Arlington, 22 Pleasant St.
W. S. Whittemore, Cambridge, 3 Concord Ave., Suite 1.
Alfred Worcester, Ex-Pres., Waltham, 314 Bacon St.

NORFOLK

W. A. Lane, V. P., Milton, 173 School St.
J. W. Bail, Brookline, 1677 Beacon St.
F. J. Bailey, Dorchester, 40 Hancock St.
F. G. Balch, C., Jamaica Plain, (Off.) 279 Clarendon St., Boston.
W. W. Barker, Dorchester, 25 Lyndhurst St.
A. S. Begg, West Roxbury, (Off.) 80 East Concord St., Boston.
D. N. Blakely, C., Brookline, (Off.) 87 Milk St., Boston.
W. L. Burrage, Secretary, Brookline, 182 Walnut St.
W. S. Burrage, Brookline, (Off.) 261 Beacon St., Boston.
F. S. Cruickshank, Sec., Milton, (Off.) 47 Bay State Rd., Boston.
F. P. Denny, Brookline, 111 High St.
D. G. Eldridge, M. N. C., Dorchester, 15 Monadnock St.
W. C. Emery, Dorchester, 430 Columbia Rd.
C. B. Faunce, Jr., Jamaica Plain, (Off.) 412 Beacon St., Boston.
C. S. Francis, Brookline, 76 High St.
N. W. Gillespie, Dorchester, 632 Columbia Rd.
W. A. Griffin, Sharon, 28 South Main St.
J. B. Hall, Roxbury, 60 Windsor St.
J. E. Hallisey, Dorchester, (Off.) 510 Commonwealth Ave., Boston.
H. B. Jackson, Jamaica Plain, 9 Harris Ave.
G. W. Kaan, Reading, 37 Prescott St.
W. B. Keeler, Roxbury, 5 Wyoming St.
W. C. Kite, Milton, 17 Russell St.
Olga C. Leary, Jamaica Plain, 44 Burroughs St.
C. L. MacGray, Needham, 1088 Great Plain Ave.
Charles Malone, Jamaica Plain, 46 St. John St.
J. R. McPeake, Milton, 16 Blue Hills Parkway.
T. J. Murphy, Roxbury, (Off.) 520 Beacon St., Boston.
W. R. Ohler, Roxbury, 319 Longwood Ave.
E. P. Powers, Roxbury, 664 Huntington Ave.
Frederick Reis, Dorchester, 464 Washington St.
H. B. C. Riemer, Norwood, (Off.) 128 Newbury St., Boston.
S. A. Robins, Roxbury, (Off.) 636 Beacon St., Boston.
C. A. Rowe, Milton, 454 Adams St.
M. V. Safford, Jamaica Plain, 15 Grovenor Rd.
W. L. Turetsky, Dorchester, 1077 Blue Hill Ave.
H. F. R. Watts, Dorchester, 6 Monadnock St.
W. A. White, Roxbury, (Off.) 57 Canal St., Boston.
W. H. Young, Dedham, (Off.) 543 Boylston St., Boston.

NORFOLK SOUTH

G. M. Sheahan, V. P., Quincy, 12 School St.
C. S. Adams, Wollaston, 62 Brook St.
T. B. Alexander, Scituate Harbor, First Parish Rd.
W. G. Curtis, Wollaston, 10 Grand View Ave.
F. E. Jones, Quincy, 1150 Hancock St.
N. R. Pillsbury, Sec., South Braintree, Norfolk Co. Hospital.
C. A. Sullivan, M. N. C., South Braintree, 20 Pond St.

PLYMOUTH

F. W. Murdock, V. P., Brockton, 56 West Elm St.
W. G. Brown, Plymouth, 4 North St.
E. D. Hill, M. N. C., Plymouth, 27 Court St.
T. H. McCarthy, Brockton, 142 Main St.
C. G. Miles, Brockton, 23 Main St.
G. A. Moore, Sec., Brockton, 167 Newbury St.
J. P. Shaw, Brockton, 6 Main St.
A. C. Smith, Brockton, 142 Main St.

SUFFOLK

G. S. Derby, V. P., Boston, 5 Bay State Rd.
A. W. Allen, Boston, 264 Beacon St.
A. E. Austin, Boston, 270 Commonwealth Ave.
J. W. Bartol, Ex-Pres., M. N. C., Boston, 1 Chestnut St.
G. H. Bigelow, Boston, State House, Room 546.
Horace Binney, Boston, 403 Beacon St.
W. B. Breed, Boston, 264 Beacon St.
W. J. Brickley, Boston, 524 Commonwealth Ave.
J. E. Briggs, Boston, 477 Beacon St.
L. T. Brown, Boston, 372 Marlborough St.
G. C. Caner, Boston, 63 Marlborough St.
David Cheever, C., Boston, Peter Bent Brigham Hospital.
A. L. Chute, Boston, 352 Marlborough St.
R. C. Cochrane, Boston, 319 Longwood Ave.
F. J. Cotton, Boston, 520 Commonwealth Ave.
A. H. Crosbie, Boston, 520 Commonwealth Ave.
W. P. Cross, South Boston, 491 Broadway.
Lincoln Davis, Boston, 205 Beacon St.
G. P. Denny, Boston, 66 Commonwealth Ave.
R. L. DeNormandie, Boston, 355 Marlborough St.
W. H. Ensworth, East Boston, 40 Princeton St.
R. B. Greenough, President, Boston, 8 Marlborough St.
J. B. Hawes, 2d, Boston, 11 Marlborough St.
John Homans, Boston, Peter Bent Brigham Hospital.
E. P. Joslin, Boston, 81 Bay State Rd.

F. S. Kellogg, Boston, 19 Bay State Rd.
R. I. Lee, Boston, 264 Beacon St.
G. A. Leland, Boston, 144 Commonwealth Ave.
L. S. McKittrick, Sec., Boston, 205 Beacon St.
J. H. Means, Boston, Mass. Gen'l Hospital.
Richard Metcalf, Winthrop, 114 Pleasant St.
Michele Nigro, Revere, (Off.) 270 Commonwealth Ave., Boston.
T. J. O'Brien, Boston, 501 Beacon St.
A. K. Paine, Boston, 80 Bay State Rd.
W. S. Parker, Boston, 472 Commonwealth Ave.
W. F. Regan, Chelsea, (Off.) 19 Bay State Rd., Boston.
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NEW ENGLAND BRANCH, AMERICAN UROLOGICAL ASSN.

OPERATION ON THE LONE KIDNEY†

(Report of Two Cases)

BY CHANNING S. SWAN, M.D.*

IN the *Journal of the American Medical Association* of January 18, 1930, Edward L. Keyes reported six cases of surgery on the single kidney.[1] In five of the cases the other kidney had been removed previously, and the sixth was an instance of congenital solitary kidney. Fortunately, these cases are not common. Keyes states that the record of his twelve years of service at the Bellevue Hospital, New York, revealed no operation on a single kidney except in one case of fused kidney and another of horse shoe kidney. In the discussion of Keyes' paper, Waltman Walters of the Mayo Clinic reported that a solitary kidney or ureter had been operated on in but forty-three instances at that clinic, with an operative mortality of 14%. Having recently had the opportunity of operating on the kidney in two patients, each of whom had but the one remaining kidney, I thought it would be of interest to report these cases. Both were seen on the Urological Service of the Massachusetts General Hospital.

CASE 1: M. G. H. No. 303621.

Miss H. L., aged 24, entered the Emergency Ward of the Massachusetts General Hospital on Christmas Eve, complaining of anuria of twenty-four hours' duration.

Eight years ago, she had had her right kidney removed for what, from her story, was probably a pyonephrosis. No sooner had she recovered from a long convalescence following the right nephrectomy than she began to have attacks of pain in her left kidney region, often associated with anuria of several hours. She had had a number of these attacks. Relief had always come from lying in a recumbent position though, in one attack, she had been relieved only by ureteral catheterization. She said that, following one of her early attacks she had been cystoscoped by Dr. Chute, who told her she had a movable kidney and a kinked ureter.

The present attack began twenty-four hours before entry, with severe pain in the left flank, vomiting and anuria. The usual palliative measures failed to give relief. Her local doctor, when called, sent her at once to the hospital.

At entry she was in a stuporous condition. T. 101.4, P. 125, R. 24. There was a large palpable mass in the left flank. She was sent to the cystoscopic room, where I was fortunate enough to get a Garceau catheter into the renal pelvis. There was immediate and continuous flow of many ounces of urine. The patient was transferred to a ward with the catheter in place, but it soon began draining intermittently with blood-tinged urine and required constant watching with frequent irrigations.

The N. P. N. was found to be 55 mg. per 100 c.c. of blood and the renal function 17% in two hours. During the next four days the patient's chart showed T. 98 to 104, P. 80 to 130, R. 18 to 33. The output of urine averaged about 1-3 of the fluid intake.

On December 28, four days after entry, the catheter was removed and the patient given a chance to void naturally. This she could not do and there was recurrence of pain and swelling in the flank. It was then necessary to reinsert the ureteral catheter; a pyelogram taken at this time showed a badly destroyed kidney.

CASE 1. Left pyelogram. Patient's only kidney.

The second catheter worked fairly well, but there was a definite septic course to the temperature, which was going to approximately 102 degrees daily. By December 30 the N. P. N. was found to have mounted to 65 mg. per 100 c.c. of blood. Nephrostomy was strongly urged, but the patient and her family refused. They wanted the patient to try to void once more with the catheter out. Her general condition was definitely getting worse.

On January 2 we took out the catheter. The patient was finally convinced of the folly of waiting any longer, and a nephrostomy was done under local anaesthesia.

A large kidney that was just a shell was found. It contained nearly a pint of infected fluid. The patient's postoperative condition was poor. Daily intravenous glucose had to be administered to keep up the output of urine. However, on the sixth postoperative day the temperature reached normal and has remained there. The N. P. N. came down to 32 and has remained normal. She was some time regaining any strength but was discharged from the hospital on the thirty-fourth postoperative day.

The patient's general state at the time of operation made any exploratory, plastic, or hitching-up

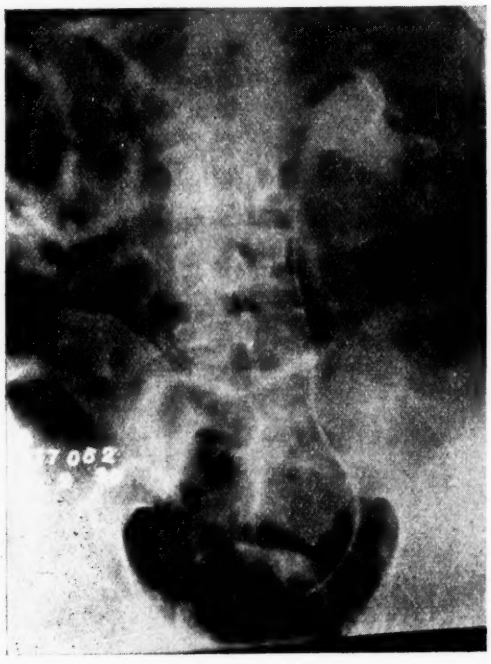
†Read before New England Branch of the American Urological Association at its meeting February 25, 1930.

*Swan, Channing—Assistant Urologist Massachusetts General Hospital. For record and address of author see "This Week's Issue", page 136.

operation out of the question, and I believe that the condition of the kidney is such that there is no hope of being able to perform any future operation to relieve her of the permanent nephrostomy.

CASE 2: M. G. H. No. 303790.

T. D., aged 24, was first seen in the Emergency Ward in consultation with the Surgical Service. He had been sick five days. The onset was a sudden sharp pain in the right flank and upper abdomen. Three hours after onset he began to vomit and did



CASE 2. Right pyelogram. Patient's only kidney.

so repeatedly for the next 48 hours. The pain lasted about four hours and recurred several times each day, the period of each attack being from one to three hours. Between the attacks of pain there was a residual soreness in the right flank and lower abdomen. There were no urinary symptoms other than the fact that the patient thought he had possibly passed his water more frequently since the onset of the present illness.

Two years ago a left "pus kidney" had been removed at the Boston City Hospital.

Physical examination now revealed tenderness in the flank, rather low, and extending into the right lower quadrant. There was also some costo-vertebral tenderness. The urine was negative except for an occasional white blood cell. The chart showed T. 100, P. 74, R. 18. White Count 17,000. Retrocecal appendix abscess was considered, but as perinephritic abscess seemed more likely, he was admitted to the Urological Service.

Cystoscopy was done on the second day and a pyelogram showed a mild degree of hydronephrosis. In the meantime the general condition remained about the same; locally the tenderness was getting more definitely limited to the kidney region and the white count rose to 23,200. The urine remained essentially negative.

On the fourth day after entry, the signs seemed to indicate a ripe perinephritic abscess. Therefore, under local anesthesia the region outside the right kidney was explored through the usual lumbar incision. No abscess was found, nor did the perirenal fat show more than the slightest inflammatory changes. Further exploration was necessary and the patient was given gas oxygen with a small quantity of ether. The region behind the appendix and the subphrenic area was negative. The kidney was large, presumably compensatory for the loss of the other, and, on palpation it seemed soft, especially in its lower pole. Therefore, a small nick was made in the lower pole and there was immediate welling-up of thick yellow colon bacillus-smelling pus. The incision was enlarged. There was an escape of about four ounces of thick pus. On exploring the bottom of the abscess cavity, a stone of about 1 cm. long by ½ cm. wide was found. No urine came out. A rubber tube drain was placed in the abscess cavity, two cigarette wicks outside the kidney, and the wound closed in the usual manner. *Diagnosis:* Abscess of lower pole of lone kidney with renal calculus.

The patient made an uneventful recovery. No urine ever came out of the wound, nor did pus ever appear in the urine. The process was apparently entirely walled off. The patient was discharged on the eighteenth postoperative day. The N. P. N. was 32 mg. per 100 c.c. of blood.

REFERENCE

1 Keyes, E. L.: Operation on the single kidney, especially for stone. J. A. M. A. 94:152, January 1930.

DISCUSSION

DR. RICHARD O'NEIL*, Boston: *Mr. President and Gentlemen*—I saw these two cases of surgery in a single kidney, which were on our service, that Dr. Swan has just reported. They were very striking and very well handled.

I would like to show plates of another case. This case has not been completed yet as far as operative procedures go, but it comes practically

FIG. 1.

under the heading of surgery of one remaining kidney. You will see in this x-ray plate (Fig. 1) a large shadow with a well marked outline and a curious mottled appearance occupying the area of the left kidney. We believe this to be a calcified cyst. Repeated tests show that there is no function whatsoever from the kidney on that

*O'Neil—Associate Urologist, Massachusetts General Hospital. For record and address of author see "This Week's Issue", page 136.

side. On the other side you will see shadows of two calculi, the larger of these was removed by pyelotomy about a year ago. As the patient's condition became so unsatisfactory during the operation, no attempt was made to remove the smaller stone which was apparently in the upper calyx. He made a good operative convalescence but a few days ago reëntered the hospital with an attack of temperature and tenderness over the operated kidney.

X-ray at the present time shows a single calculus, which in the former plate was in close relation to the twelfth rib, has apparently moved and is now in the pelvis of the remaining kidney. Pyelogram (Fig. 2) shows a pretty bad

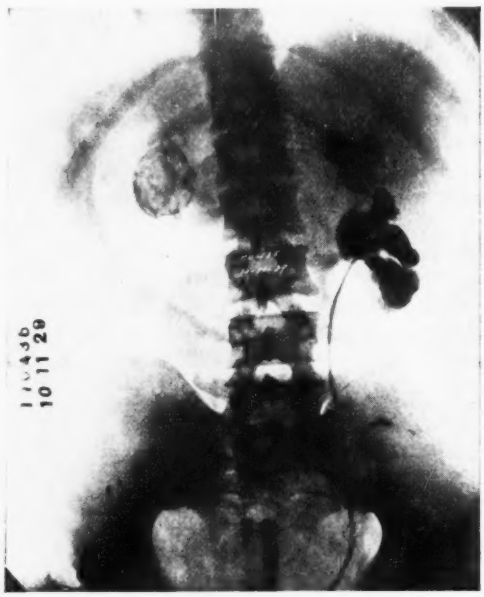


FIG. 2. Right pyelogram.

kidney, n. p. n. is 75 milligrams, renal function fair. He has improved very much since coming into the hospital and now the question is whether to attempt removal of this calculus which apparently is in the pelvis near the ureter. We are still thinking about it. It is a pretty poor kidney and it is a previously operated kidney which, of course, enhances the risk and danger of operation greatly. He may at any time become a case of calculus anuria which he is potentially now, so that we will probably expose that kidney and if there is a spot where the cortex is thin, go in and remove the calculus and perhaps put him on permanent nephrostomy drainage.

Note: Since this report the patient has been successfully operated on, a pyelonephrotomy having been done, the stone removed and the kidney drained through the cortex with a large tube. His condition ten days after operation is very good. It is probable that the tube will remain for some time, if not permanently, as there is considerable infection and considerable gritty material was removed from the pelvis of the kidney at the time of operation which makes the probability of early recurrence of calculus very great.

DR. AUGUSTUS RILEY*, Boston: I have here one of the curiosities we find occasionally in our clinics. It is a story of a man, 56 years old, whose occupation was a painter. A short time ago he was admitted to one of the medical services of the Boston City Hospital because of his severe anaemia. It was thought that his anaemia was due to a lead poisoning. His blood examination showed lead stipplings. Some time after being admitted to the hospital he began to develop paraesthesia and some paralysis of his arms and legs. He was seen and examined by some one of the neurological service: a diagnosis of "Probable degeneration of the anterior horns of the spinal cord" was made. X-ray plates of his chest were taken and metastasis in the ribs were shown. The x-ray plates of his pelvis showed metastasis. To see how extensive the metastasis might be, x-ray plates of all his different bones were made and they all showed more or less metastases. Even his fingers and toes showed metastases.

I was asked to examine the man's prostate to see if he had carcinoma of that organ which might be the primary source of the general bone metastasis. He gave no history of any urinary disturbances. There was no history of haematuria at any time. The urine examinations showed no microscopic red blood cells. Examination of his prostate revealed a definite hard and fixed condition. There was no question but that the prostate was definitely carcinomatous. Apparently every bone in the man's body showed an extensive metastasis of carcinoma with the primary site in the prostate.

I remember a few years ago Dr. Cunningham and Dr. Graves reported a somewhat similar case. Dr. Butler of the X-ray Department, Boston City Hospital, says he never saw nor heard of a case that showed such extreme metastasis as this case (x-rays of bones of legs, feet, arms, hands, pelvis, chest, spine and skull were shown).

The patient went from bad to worse and finally died. At no time did he have urinary retention, but did show some haematuria a short time before he died. A complete autopsy was refused, but enough of his prostate was obtained for pathological examination. Dr. Mallory pronounced it carcinoma of the prostate.

DR. W. D. BIEBERBACH†, Worcester: I would like to show a large stone removed from the membranous urethra in a patient fifty-seven years of age, operated upon thirteen years ago for stricture. I introduced an endoscope and caught the face of the stone with a pair of alligator forceps and by gentle traction was able to withdraw the stone. It is the largest that I have seen removed by this method.

*Riley—Assistant Professor Genito-Urinary Surgery, Harvard. For record and address of author see "This Week's Issue", page 136.

†Bieberbach—Urologist Worcester City Hospital, et al. For record and address of author see "This Week's Issue", page 136.

DR. HERBERT H. HOWARD*, Boston: I have a case of leukoplakia of the bladder associated with priapism which is rather interesting. This man was admitted to the City Hospital on the fifth of January 1930, an Italian laborer, forty years of age.

Admission diagnosis: Priapism.

Up to four and one-half years ago, the patient was free from any urinary symptoms. At this time he began to note a slight terminal hematuria with some frequency and a gradual increase of these symptoms. Associated with this was the passage of flaky substances in his urine.

Two years ago these symptoms became so pronounced that he was obliged to give up work and sought medical treatment for the first time. There was an occasional retention relieved by catheterization. He had been cystoscoped at a hospital on three different occasions and advised to go into the hospital for further treatment, but refused to do this.

He did not consent to be admitted to the hospital until the priapism which he developed four days previous to entrance became so painful that he was unable to continue with home treatment.

*Howard—Senior Surgeon, Boston City Hospital. For record and address of author see "This Week's Issue", page 136.

It was impossible, of course, to cystoscope the man on admission. With spinal anaesthesia the bladder was opened through a suprapubic wound and it was found that he had a rather extensive leukoplakia of the bladder and one of the plaques extending into the urethral meatus. The bladder was drained with a No. 42 Mushroom catheter and the corpus cavernosum was punctured on each side in three different places by a moderately large gage needle and at the time of the puncture a large amount of serosanguineous fluid spouted out of the needle. The priapism subsided, but at the end of forty-eight hours came back, but not so severe as it was at entrance.

The corpora was punctured in all four different times during an interval of twelve days and on the fourteenth day it had practically returned to normal save for some localized reactions at the site of puncture. These entirely subsided with flaxseed poultices. His Wassermann was negative. His kidney function was normal.

At the present time he is perfectly comfortable, has had deep x-ray therapy and is on a diet rich in vitamine A. His general condition has definitely improved since the time of admission.

FIBROUS OBSTRUCTION OF THE VESICAL OUTLET†

BY CLYDE W. COLLINGS, M.D.*

WHEN the bladder neck is contracted by fibrous scar tissue, this change may be termed fibrous obstruction. The tight bladder neck impedes the free outflow of urine and residual urine often results.

ETIOLOGY

Most authors believe the cause of the fibrosis to be a chronic inflammation of the prostate gland, leaving scars when healing occurs. However, we see cases in infancy and youth without any previous prostatic infection.

PATHOLOGY

It is rare indeed that one finds a purely fibrous prostate without some glandular tissue. And one does not see a purely glandular type of prostatic enlargement; there is always some sclerosis present. Then again, in the mixed type, an antecedent infection and resultant scar probably inhibits hyperplasia in parts of the gland. In fibrous bars removed by a punch, Randall and Bothe always found a certain amount of gland substance with the inflammatory tissue.

HISTORY

Since the days of Bottini, urologists have concerned themselves with a transurethral operation for relieving the small fibrous obstruction.

†Read before New England Branch of the American Urological Association at its meeting February 25, 1930.

*Collings—Instructor in Urologic Surgery, New York University and Bellevue Medical College. For record and address of author see "This Week's Issue", page 136.

The galvano-cautery of Bottini and Chetwood caused severe hemorrhage as the thick slough separated a week or two later. Incontinence was another complication. Most of these patients had to be operated upon again after 5 or 10 years.

Keyes states, "Young has given us a urethral punch wherewith to bite out pieces of the bladder neck, and continues to perform this operation undismayed by the profuse hemorrhage that often results." Many operators do a preliminary cystotomy, through which they can guide the bite of the punch, and drain the bladder afterwards, to take care of the hemorrhage.

Like Young, Caulk does his punch without the aid of the eye. This is a great disadvantage; as the elder Doctor Bull once said, "An ounce of see, is worth a ton of feel". In our hands at Bellevue we have found Doctor Caulk's instrument fragile and difficult to operate. Bleeding has been another drawback.

Soon after Beer brought out the high frequency current, in 1912, he fulgurated a median bar. Three weeks later the patient's bladder filled with blood clots. A suprapubic cystotomy controlled the bleeding. A. R. Stevens, Bugbee, Mathé and others have fulgurated the fibrous prostate. It requires a number of sittings and hemorrhage sometimes occurs.

In 1923, Wappler devised the first cutting current apparatus in this country, the so-called Radiotherm. It was a tube machine similar in principle to the radio receiving set. In our

hands this current would not cut efficiently under water. A little later, the spark-gap machine, the "electrotome", was developed. This apparatus cuts equally as well in water or air. The current is like the old fulgurating, high frequency except, that in order to cut, the high frequency oscillations must be 14 or 15 times faster. Stepping up the oscillations in this way, the entire character of the current is changed—it cuts without coagulating the tissue. There is only a minimal amount of heat penetration beyond the line of incision. By microscopic examination we have found tissue destruction extends only 1 to 2 mm. beyond the cut.

SYMPTOMS

The usual symptoms of prostatism are complained of by the patient with a fibrous prostate; namely, frequency, burning, urgency, difficulty, at times complete retention, terminal hematuria, pain in the perineum and across the back.

In a group of 25 patients in our office practice operated upon since January 1929, the symptoms of prostatism had been present from a few weeks to 22 years, the average duration being 6 years. The youngest was 29, and the oldest 76, most all the patients being in the fourth, fifth and sixth decade. Fourteen had a Neisser infection in their youth.

The residual urine was recorded as 30 c.c. in 10 patients, 60 c.c. in 5, 90 c.c. to complete retention in 1, 100 to 130 c.c. in 2, 210 c.c. in 1, 240 c.c. to complete retention in 1, 350 c.c. in 2, 450 c.c. in 1 (using the catheter once in 24 hours), and 495 c.c. in 1.

A few patients of this group had had previous operations; 1, a suprapubic prostatectomy 5 years ago; 2, a suprapubic cystotomy for vesical calculus 1 year ago; 1, a stricture operation 9 years ago; 1, a litholapaxy 1 month ago; 1, a Young punch 8 years previously.

DIAGNOSIS

The diagnosis of the fibrous prostate is made by rectal and cysto-urethroscopic examinations. By rectum, the prostate is usually described as small, somewhat irregular and firm throughout, the median furrow slightly preserved, and the lateral sulci not deepened. The seminal vesicles are often more or less indurated.

As the cysto-urethroscope is passed through the bladder neck, depression of the ocular end is required to get over the fibrous bar. A distinct jump is felt as the instrument slips by the obstruction. In patients with symptoms over a period of years, trabeculation of the bladder is often noted. There is tilting of the trigone and a definite *bas-fond*. As the urethroscope is withdrawn into the posterior urethra, the floor of the bladder neck seems to raise as a curtain. Pushing the instrument back toward the bladder, a stone-wall is encountered,—the obstruction can only be passed if the ocular is again depressed.

Lateral, median and intraurethral lateral lobes must be looked for and excluded before our method of operation is employed. About once a year the resident urologist at Bellevue Hospital gives me an early case of tabes dorsalis to operate upon. Needless to say, these patients are not benefited by any type of bladder neck operation.

OPERATION

Up to a year ago, the electric excision of the prostatic bar was performed with a stiff knife-like electrode through the McCarthy panendoscope. Working upon certain suggestions by Doctor Keyes and the writer, Reinhold Wappler modified the four oblique lens system, giving a larger field of vision. Our continuous irrigation modification of the McCarthy panendoscope has been placed along the top of the telescope; this steadies the electrode, further simplifying the operation.

The operation is preferably performed in a hospital under caudal anaesthesia (50 c.c. of 1% novocain). At times gas or a spinal anesthetic is given.

The cysto-urethroscope is passed into the bladder. With the bladder partially distended, and the inflow and outflow of water regulated, the electrode is engaged upon the bar at 6 o'clock. The current is turned on and violent bubbling is noted. The protein molecules are exploded by jostling of the high frequency oscillations. The urethroscope and electrode are slowly pulled back *en masse* until the verumontanum appears. A white furrow about 2 mm. deep is seen. The instrument, with the electrode in the furrow, is then pushed forward and through the bladder neck. Working back and forth in this manner, the groove is gradually widened and deepened. Cut until you see that the last obstructing fibrous band has been sawed into. One can, from the veru, look down a deep valley (perhaps 1.5 cm. deep) and see the base of the bladder. Persist in your efforts until you are satisfied that the patient has a wide open bladder neck. If this is accomplished, the patient is cured. We are all timid at first, and cut too little. Do not be afraid of the rectum—it is still 1.5 cm. away (as determined on the cadaver).

By turning the knife sideways, one engages the blade on the bladder neck at 5 o'clock. Cut downward and backward toward the veru until the intervening tissue is whittled away. The procedure is repeated on the opposite side.

The operation can be slowly and precisely performed in about 20 minutes.

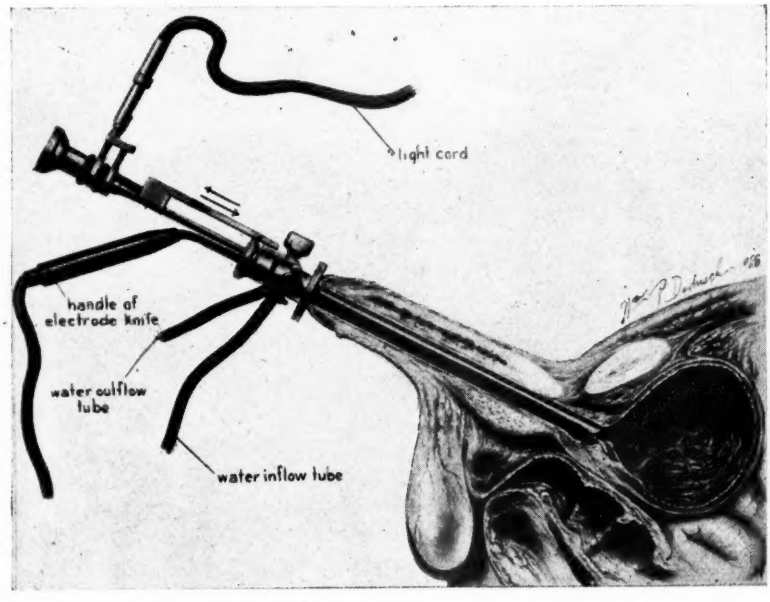
AFTER-CARE

Patients with a residuum of 200 c.c. or more before operation have an indwelling catheter tied

in the urethra for a day or two after the excision.

Sick patients with a large residuum are decompressed before and after operation. As a rule, patients are able to void after removal of the catheter. Occasionally a patient may require catheterization for a day or two. Try not to pass a catheter postoperatively. It incites bleeding.

Two weeks after operation a catheter is passed, residuum observed, and the bladder irrigated with a 1 to 5000 solution of acriflavine. Any slight infection is thereby controlled and small phosphatic incrustations on the operative area washed away. This is repeated about once a week, and the decrease in residuum noted. It



Sagittal section—showing electrode excising the obstructing bar.

often takes 7 or 8 weeks before the maximum effect of the operation is obtained, due possibly to the postoperative oedema of the bladder neck and the partial recovery of the normal tone to the relaxed bladder.

Hemorrhage from the incisions, at the time of operation, has been nil. The blood-vessels are sealed as they are cut across. The water in the pail at the end of the operation is pink from pushing the instrument back and forth in the urethra. In about half the cases, blood-tinged urine with small clots are passed, off and on, for the first week or so. Rarely is it necessary to use an indwelling catheter for bleeding. I have never had to perform a suprapubic cystotomy to control hemorrhage.

RESULTS OF OPERATION

Of the twenty-five patients operated upon since January 1929, all but three empty their bladders completely. They retain 10, 20, and 75 c.c., respectively. The 10 c.c. patient had 90 c.c. to complete retention before operation; the 20 c.c. patient had 450 c.c. residuum and was catheterizing himself once daily; the 75 c.c. patient had 495 c.c. before operation (on December 27, 1929). This residuum will probably become less.

Burning and frequency of urination was relieved in all save two.

W. N., aged 53, had had a Young punch by another surgeon in 1921. The burning and frequency, (day every 2 hours, night 3 to 4 times) had not been relieved. Rectal and cystoscopic examinations showed a slight enlargement of both lateral lobes and a bar. Residuum 30 c.c. The patient refused to have a prostatectomy. The bar was excised; one month later there was no residuum. Burning, two months after operation, was less; the frequency by day was the same, but at night, less.

Another patient, W. M., aged 63, had a perineal section for stricture and periurethral abscess in 1921; following the operation he was in uremic coma for 20 days. He remained in good health, having sounds passed regularly, until August 1929, when he again went into uremic coma. The residual urine was 240 c.c., the last ounce pure pus (probably renal). There was no dye return at the end of two hours. September 1929 the cysto-urethroscope showed a marked bar. Although the patient was a desperate risk, a transurethral operation was the only hope. The bar was excised in October 1929. Uremia followed in 36 hours. Carbuncle and boils of the back developed. The patient went down-hill gradually and died of renal insufficiency in January 1930.

The burning and frequency after the operation usually lasts for two or three weeks. A minority experience no burning whatever. Many patients will volunteer the information, that the feeling of obstruction is gone—the urine passes freely.

Typical case histories of this group may be recited:

W. E. S., aged 57, urologist, was seen in March

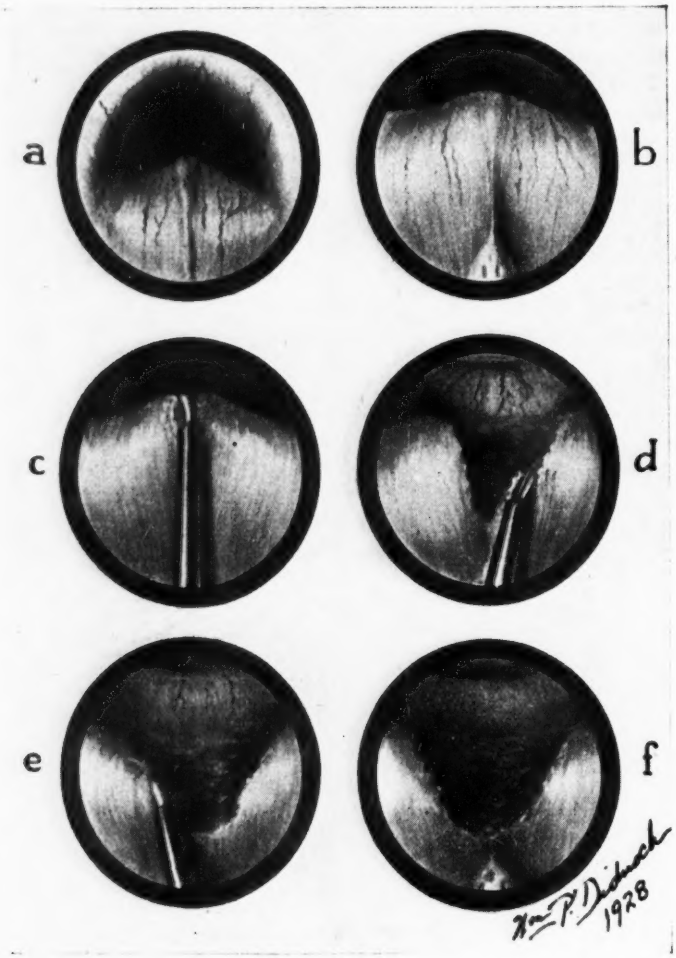
1929. He complained of frequency, of 2 years' duration. Residuum 30 c.c. Rectal examination showed a fibrous prostate; cystoscopy a median bar and small nubbin of an intraurethral lateral lobe. Bar and nubbin excised. Four months later urination was entirely normal; urethroscopy shows a wide open furrow covered with normal appearing mucous membrane.

S. D., aged 69, was examined in April 1929. He was in uremic coma due to fibrous scar, obstructing the bladder neck, following prostatectomy 5 years previously. After an indwelling catheter for two weeks the patient had an electric excision of the scar. The residuum of 180 c.c. before operation, was reduced to 0 and he is now enjoying life in Florida.

J. D. B., aged 69, had a carcinomatous bar of the bladder neck excised in November 1929. A residuum of 120 c.c. before operation was nil 3 months later. Three weeks after operation 6 platinum seeds (each 2.5 mc.) of radium were implanted through the perineum into the prostate. February 17, 1930, the patient's weight and strength were back to normal. He voids by day every 2 or 3 hours, at night once. The prostate feels softer, but we know it will only be a question of time until the carcinoma again fills in the bladder neck.

Patients operated upon from 1923-1926 have remained well except one. He was 75 years of age and died one year after operation of acute cardiac failure.

Of the twenty-eight patients operated upon from 1926 to 1929, one died in 1929 from carcinoma of the prostate; another with a fibrous bar had to be operated upon a second time because the first cut was not deep enough. The second operation relieved him entirely.



a. Bar of Bladder Neck.
b. Close up of Fibrous Bar.
c. Electrode Cutting at 6 o'clock.
d. Cutting at 5 o'clock.
e. Cutting at 7 o'clock.
f. The completed operation.

Within the past few months I have urethroscoped my first patient operated upon in 1923. The deep furrow in the bladder neck is apparently as wide open as the day of operation. He is free from symptoms.

I have operated upon two patients with median and slight lateral lobe obstruction. They were elderly patients with diabetes, and severe myocarditis, upon whom prostatectomy could not be performed. I gave them symptomatic relief. But 6 other patients with benign enlarge-

ment were operated upon as test cases of this method. They all required subsequent prostatectomy.

In answer to a questionnaire I mailed to many members of the American Urological Association, during the past year, the consensus was that the majority preferred a visual transurethral operation by the cutting high frequency current. Many have stopped using the punch on account of hemorrhage.

During the past 5 years, 44 urologists performed 889 operations on fibrous bar, 111 operations on scar following prostatectomy, and 161 operations on obstructing carcinomatous bar.

Vote on choice of methods:

19	preferred	electric excision
5	"	Young punch
4	"	Caulk
1	"	open operation with cautery
7	"	" " " cold knife
2	"	" " " Young punch
2	"	perineal excision
1	"	Percy cautery
1	"	Braasch punch
1	"	Geraghty punch
1	"	Rose punch

SUMMARY

1. Proper selection of patients for this type of operation is *all important.*

2. The indications are (1) fibrous prostatic bar, (2) obstructing scar following prostatectomy, (3) at times, carcinomatous bar from prostatic carcinoma.

3. The operation is done bloodlessly, under constant vision.

4. An elderly patient is not subjected to a major operation, grave risk, or serious complication.

5. The patient is confined to the hospital only a few days.

6. Benign enlargement of the prostate is best handled by prostatectomy.

DISCUSSION

DR. A. L. CHUTE*, Boston: I have enjoyed Dr. Collings' paper very much indeed. It seems to me that his instrument is very ingenious and a great improvement over the old cold punch. The fact that one can see what one is doing, as he is doing it, gives an advantage over Dr. Caulk's instrument. I am glad to hear Dr. Collings advise that the use of his instrument be restricted to cases of "bars" at the bladder outlet. There can be no doubt that there is a field for an instrument of this sort but I still think the field is a very limited one. Having gotten into trouble on a few occasions with the old cold punch and having demonstrated to my own satisfaction that I cannot tell from cystoscopy, absolutely accurately, just what sort of an obstructive condition I have at the bladder outlet, in a given case, that often there is a much larger amount of tissue than I suspected, I am inclined to await the results of others before taking up the use of Dr. Collings' instrument. This in spite of the fact that Dr. Collings' results show that his instrument is of great value in his hands.

*Chute — Genito-Urinary Surgeon, St. Elizabeth's Hospital, Brighton, et al. For record and address of author see "This Week's Issue", page 136.

DR. CLYDE DEMING†, New Haven, Conn.: I have enjoyed Dr. Collings' talk. Some years ago I investigated the instrument and bought a complete outfit. I believe it is quite necessary that we visualize our operative procedures. I have also one of Dr. Young's new cystoscopes that looks backward, forward and sideways as well as one of the McCarthy panendoscopes. I have been looking for a year for one of these cases in order to use Dr. Collings' instrument. I am sorry I have not had the pleasure of using it. All of our prostatic cases seem to have prostatic adenomata so that I have been unable to apply this new instrument. However, it seems to me that the principle of the instrument is excellent. The work can be done under direct vision. It is apparently the same kind of work that we would do if we opened the bladder and visualized the operative procedure completely. As far as carcinoma of the prostate is concerned, I have not used it in these cases. So far there has been such a large carcinomatous growth that it seemed best either to drain the bladder suprapubically or do a conservative perineal excision of the carcinomatous tissue. I certainly am in full accord with Dr. Collings in the use of the instrument so far as described and shall look forward to my first case.

DR. P. N. PAPAS‡, Boston: It gives me great pleasure to add a few words to Dr. Collings' work on prostatic bars. This method has been my hobby for the last two years or so. Any new method in surgery or medicine which deviates from the accepted methods has always been regarded as a heresy until its accuracy and benefits have been proven by the test of time.

The treatment of prostatic obstruction even today, in spite of many refinements in surgical technique, accumulated knowledge of blood chemistry, improvements in anaesthesia, knowledge of back pressure on the kidneys, advantages of gradual decompression and preparation for surgery, first and second stage operation, with the question of suprapubic or perineal operations, the use of radium, etc., still seems to be confronted with problems to be solved. There have been several transurethral methods tried, some approved, others condemned for one reason or another, difficulties with these methods being lack of vision in the field of operation, postoperative hemorrhage or temporary relief.

Today the mortality in prostatic surgery under a skilled urologist is very much lower than ten years ago, I admit. Still, the fact remains that skilled urologists are not the only ones doing prostatectomies. So I think it is to the advantage of the urologist and to his patient to

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‡Papas—Genito-Urinary Surgeon, Boston Dispensary. For record and address of author see "This Week's Issue", page 136.

be prepared and be able to offer some finer, safer and more skillful method in combating bladder neck obstructions than the general surgeon.

The method Dr. Collings described and so ingeniously put into motion pictures is an entirely new method and I think it is the beginning of a new field in prostatic electrosurgery, as you may call it. It opens the door for research for further uses of the cutting current in transurethral operations or in genito-urinary surgery in general. Every step of the operation was demonstrated with the motion picture so clearly. Still, when you come to try it, you will find out that it requires considerable skill and patience.

With my limited number of cases, I am very enthusiastic about it, so far. I have used Dr. Collings' method in thirty-three different cases as follows:

17 Median Bars
7 Median Lobes
5 Carcinomatous Bars.
2 Bladder Neck Contractures following prostatectomy.
2 Lateral Lobes.

The youngest patient was 43 years of age and the oldest 92. Residuals from 3 ozs. to complete retention, one on catheter life. The cases of median lobe and carcinomatous bars were either inoperable or prostatectomy, even suprapubic, was contraindicated on account of their general condition. One had fear of prostatectomy because his brother died of it.

All except the lateral lobe cases have been relieved. I have followed and checked up their residual, cystoscoped some of them and so far there does not seem to be closure of the passage. Still, five years from now will tell us. In the median bars, I am inclined to believe the results will be permanent. As for the inoperable carcinomatous and median lobes, where prostatectomy was contraindicated, I am not anticipating 5 or 10 years anyway. If they live and close up, why not repeat the procedure? I do not think any urologist will deny the fact that failure to relieve even following prostatectomy is not uncommon. I am not recommending this method as a substitute for prostatectomy, only to supplement it, and with the test of time and research, broaden its use.

My limited experience brings me to this conclusion—that you can relieve with Collings' method any obstruction at the bladder neck in front of the trigone, whether median bar, median lobe or carcinomatous bars, except lateral lobes or where there is intraurethral enlargement of the prostate.

According to statistics, 15 per cent. of the prostatic obstructions are due to median bars. We do not see many of these because we do not look for them. If you cystoscope all of your long standing chronic prostatitis cases and check them up for residual urine, you will be surprised to find quite a few of them with symptoms attributed to sexual neurasthenia. About 20 per cent. of all obstructing prostates are of carcinomatous type. What per cent. are inoperable, I do not know. Some say one-third, others say the majority, and one must not forget that many times operation may excite a slow-growing cancer to extreme activity and metastasis. "Cancer abhors heat"—at least prevents spreading. So, if you allow 5 per cent. of cases with median lobes which are poor risks for prostatectomy and the bladder neck constrictions, the use of the Collings' method will be applicable in about 30 to 35 per cent. of the prostatic obstructions.

I admit it is a difficult operation. It is rather an art for the urologist to relieve a major symptom with minor surgery; a saving of time, expense and risk to the patient. On my first case I worked for one and one-half hours, now it takes me about 35 minutes. I have seen Dr. Collings perform it in from 15 to 20 minutes. In other words, practice makes perfect.

I wish to call your attention to a few points from personal experience: First, familiarize yourself with the use of the panendoscope; second, study the bladder outlet thoroughly, make drawings of the enlargements and notice clefts at different angles; third, do not attempt to cut with ordinary high frequency machine; fourth, do not get discouraged if your vision is blurred after the first cut, there may be a blood clot on the lamp or the lamp may be burned out; fifth, if you are getting any more bleeding than a slight pinkish fluid you are either cutting too fast or your knife is covered with cut tissue, take it out and clean it; sixth, avoid the inlying catheter if residual is less than eight ounces. Even if it is more, leave the patient alone and see what he can do. If you see that he has difficulty, catheterize him once, the second time he will urinate. Indwelling catheter seems to prolong convalescence, and increases the irritability and sets up an inflammatory process. I have had no epididymitis in any of my cases so far.

I wish to express my sincere thanks and appreciation for Dr. Collings' valuable contribution of transurethral electrosurgery to our armamentarium of G. U. surgery.

Dr. T. N. Hepburn*, Hartford: I certainly enjoyed Dr. Collings' paper and pictures. Every time I hear him speak of his method I become enthusiastic. I am convinced it is the best method I have seen for this type of pathology and I promise myself I will get the instrument and try to become skillful with it, every time I hear him.

Fortunately, I have not had the sad experience which he says Dr. Buerger has had in using the ordinary fulguration in these cases. I do not know how many cases I have used it in, but I have been using it fifteen years or more and I have never had any hemorrhage from it.

*Hepburn—Urologist, Hartford Hospital, Hartford, et al. For record and address of author see "This Week's Issue", page 136.

I burn a good furrow through the prostatic bar (a rather minor procedure), which has given very satisfactory results. I am quite sure, however, that Dr. Collings' instrument and technique are an improvement on the rather clumsy work I do with the instruments I have at hand. I hope this paper will fill me with enough enthusiasm to really get his instrument and try to become skillful with it.

DR. RICHARD O'NEIL, Boston: I should like to express my appreciation of Dr. Collings' work. We have had very little experience with electrocauterization in this type of obstruction. I have used the Caulk punch in a few cases and I have used the cold punch and have had the same experience we have all had. I have had the best results by using the Young punch combined with suprapubic operation. I particularly admire Dr. Collings' very clear statement that this method should be limited to a certain type of obstruction only, and that where there is an obstructing prostate, prostatectomy is indicated. I think some advocates of this method have been rather urgent that we use it in any and all types of obstruction. Dr. Collings' presentation is clear, moderate and sane.

DR. G. G. SMITH, Boston: I have enjoyed Dr. Collings' very excellent presentation of this subject. About two years ago I bought one of these instruments and have used it in perhaps half-a-dozen cases, more I think in cases of obstructing carcinoma than in any other type. I am particularly glad to have heard his paper tonight because I have been a bit discouraged in its use. The story would usually be about like this. I would use it for fifteen to twenty minutes without apparently very much result, then I would lay it aside and take the cold punch or Caulk punch and bite out two or three good sized chunks of tissue and feel very much relieved. I like to see results. I am sure that the fault was with me in my use of the instrument. I found that vision was rather difficult, but, as Dr. Papas very well pointed out, it may be that the knife got dirty too quickly or there was something wrong with the technique of its use which prevented me from being able to watch the cutting process in a satisfactory manner. I felt that there was too much blood in the field or for some reason or other I was unable to control what was going on under vision and I felt I could do better with the actual punch where I could feel the obstructing bar. However, I shall use it again on the first suitable case I get and with the information I have gained here tonight, I hope I shall have better success.

I believe there is a distinct group of cases which lend themselves to this procedure and which will be much benefited by it. They are, of course, the same type of case in which the Caulk's punch worked satisfactorily but I can see that being able to operate under vision and getting a good trench which one can see and which is not lined with very thick slough is distinctly an advantage. I wish to express my thanks to Dr. Collings for his very good presentation.

DR. H. A. CHAMBERLIN*, Boston: I have found the Collings operation very satisfactory for small fibrous, obstructing prostates and the median bar obstructions, but I feel that it is often difficult to determine the size of some prostates by the most careful cystoscopic, urethroscopic and rectal examinations.

In two cases within the past year which I operated upon by the Collings' method, and which certainly seemed suitable for that operation I had subsequently to do a perineal prostatectomy.

DR. R. C. GRAVES†, Boston: I should like to add my tribute to those that already have been paid to Dr. Collings. I have not used his method. Like Dr. Hepburn, my curve of temptation is steadily rising and I think I shall acquire the new model and attempt its use. I have had the pleasure of watching Dr. Collings perform this operation and I can bear witness to the fact that he does it as accurately and as gracefully as he presents the subject. I think it is a very excellent method, and I quite agree with Dr. O'Neil that its greatest success will be based on its restricted use—its use for the particular types of pathology that Dr. Collings has listed. So many of these procedures that are constantly being developed fall into disrepute without deserving such fate simply because they are employed in improperly selected cases, their use being attempted over far too wide a field. I am quite out of sympathy with any attempt to use any method of this sort for an obstructive lesion of the prostate other than those definite ones that have been mentioned, i.e., the fibrous bar and possibly some cases of carcinoma. I am glad that Dr. Collings has so definitely given his opinion along the same line. I appreciate very much his coming here tonight and I have enjoyed his very clear presentation.

DR. ARTHUR H. CROSBIE‡, Boston: I am sure we are all greatly indebted to Dr. Collings for telling us so clearly about this operation. I have used it quite a good many times. I became interested in it soon after Dr. Collings commenced to talk about it and the cases that have not been successful with me have not been the fault of the operation but the fault has been that I did not follow what Dr. Collings has impressed upon us from the first, and that is to select proper cases, and it is the fibrous bladder outlet or prostatic bar particularly that it works well with. The type of cases that I have used it on very successfully have been obstruction occasionally following suprapubic prostatectomy

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‡Crosbie—Chief Urologist Boston Dispensary. For record and address of author see "This Week's Issue", page 136.

and I saw one following perineal prostatectomy where months or years after the original operation the person commenced to have residual urine again without evidence of any prostate left behind where there has been a contracture of the bladder outlet. In cases of that type I have used it very successfully.

I am a good deal like Dr. Smith—I like to see something for my work, and after burning this groove out at six five and seven I usually put in a Young punch and am greatly pleased to see some hunks of charred tissue come out. I do not suppose that doing so increases the success of the operation at all.

Its use for carcinomatous obstructions I doubt the value of very much. I have had no luck with it, and I do not believe that you will find very many cases where it will work. Perhaps later on we will find that by doing more cutting in these cases, it will be of benefit. It certainly has been a very useful operation in my hands and, as I say, the cases that were not successful have been where there has been considerable prostatic hypertrophy that got by me at first, or in attempting to use it in carcinoma cases.

Dr. Collings (closing the discussion): One of the main points I want to make clear—this operation should not be used in any type of benign enlargement. In a questionnaire I sent to a number of urologists regarding bladder neck obstruction, several asked me to continue my plea of not operating upon benign enlargement by any transurethral method.

As to Dr. Caulk's presentation in Portland this past summer he stated he cured 85% of all patients with obstruction at the bladder neck, both benign enlargement and otherwise, by his instrument. In the discussion, some men felt we should await Dr. Caulk's subsequent reports and see how his present cures stand the test of time.

An error in diagnosis is the one thing to look out for in all of our cystoscopic work. I am reminded of a patient we had in Bellevue within the last two or three months who had been opened suprapubically for a median bar excision. Subsequently, the man's bladder would not heal. I then excised what appeared to be scar at the bladder neck but he still did not heal. We again enlarged the suprapubic wound and found we had overlooked a large subtrigonal enlargement of the prostate.

I agree perfectly with what Dr. Crosbie has said about carcinoma of the prostate. Most cases are fairly advanced when they are referred to us. I believe that a perineal prostatectomy, removing all the obstruction you can possibly whittle or bite out, is the thing to do. In certain cases the main obstruction is caused by a carcinomatous bar. In that type of case I can relieve them of their residual urine for a time, making the patient comfortable and postponing the day he will require a suprapubic tube.

As Dr. Howard justly remarked, the bar operation requires a great deal of patience. It is a whittling procedure, but if you will persist over a period of time, you will be pleased with your results.

A COMPARISON OF RESULTS FOLLOWING SUPRAPUBIC AND PERINEAL PROSTATECTOMY

BY GEORGE GILBERT SMITH, M.D.*

PROSTATECTOMY for hypertrophy of the prostate has passed through a gradual process of evolution. From time to time, a realization of the importance of some factor has been awakened in the minds of those who do this operation, and corresponding changes in technic have taken place. The most important of these steps forward was the recognition of the necessity of preparing the kidneys by adequate drainage preliminary to prostatectomy; in answer to this, the two-stage suprapubic operation was developed. The influence of anaesthesia upon the patient's condition, the relation between bladder decompression and circulatory collapse, and the elimination of epididymitis by means of division of the vas deferens, have been accepted as factors having an important bearing upon the result of the operation. That prostatectomy is not yet an ideal operation is evidenced by the fact that variations upon the established technic are constantly being suggested.

My own experience with suprapubic prostatectomy, which was the operation that I usually employed until some five years ago, was not particularly satisfactory. The mortality seemed too high, the patients were often sufficiently uremic to require repeated hypodermoclysis, and the operation as a whole appeared to be messy and uncomfortable for the patient. True, the functional results were good, except that not infrequently hernias developed in the incision. I decided to try out the perineal type of operation, and have used that in almost all cases since 1924.

It has been my impression that the perineal operation has been much more satisfactory, but it was not until the statistics relating to one hundred operations of each type were compared that it became evident how much more satisfactory it was. This paper contains the

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essential points in this comparison of the results of the two operations.

The suprapubic operation was performed in the usual way. The preliminary cystotomy was done under local anaesthesia. After a period of drainage which, in 43% of the cases, was between one and two weeks and in 33% was between two and three weeks, the prostate was elevated by a finger in the rectum and enucleated through the suprapubic sinus. This was done without reopening the incision any more than was necessary to get at the prostate. No attempt was made to suture the capsule. If there was much bleeding, a gauze pack was left in. A catheter was left in the urethra until the suprapubic wound was healed. In spite of the fact that the enucleation was done by touch and not by sight, the functional results were uniformly good. If tabs of mucosa were left, they did not prevent thorough emptying of the bladder afterwards.

The perineal operation was done after preliminary catheter drainage. There were very few patients who did not tolerate a catheter. In this connection I think it is essential that the catheter be of the best quality of soft rubber, with a smooth finish. Those with two eyes are preferable, 18-22 French in size. I do not change the catheter unless it becomes plugged. At first there is some purulent urethral discharge, but this usually decreases after the first two or three days. Vasectomy is performed before catheter drainage is started, or as soon after that as possible. Cystoscopy with a 16 French observation instrument is done before operation. The patient is usually kept in bed for three days after the vasectomy; after that he is urged to sit up every day and to walk about the hospital corridor ad libitum.

The operation which I have employed has been a slight modification of Hugh Young's perineal prostatectomy; it was first demonstrated to me by Dr. Franklin G. Balch. After the posterior surface of the prostate has been exposed through a curved perineal incision (inverted U), a straight tractor (Markley's) is inserted into the bladder through an incision in the urethra at the apex of the prostate. This incision is then carried obliquely through the left lateral lobe. The forefinger is inserted into the prostatic urethra and all adenomatous masses are shelled out as in the suprapubic operation. The tractor is removed, the posterior lip of the bladder neck grasped with lion-jaw forceps and drawn down. If arterial bleeders are seen, they are clamped and electrocoagulated. The finger is passed into the bladder to be certain that no adenomata are left. A catheter is then passed through the urethra into the bladder, and a straight perineal tube, size 34 or 36 French, or the tube devised by Hinman, which has a wide flange about 2 centimeters from the tip, is inserted into the bladder. The flange on the Hinman tube rests against the bladder neck, and prevents hemorrhage into the bladder. The posterior flap of prostatic capsule is then sutured back in place by one stitch, and the perineum carefully closed about the tube. Sometimes a gauze or rubber wick is left in the prostatic cavity, but often that seems unnecessary.

The perineal tube is removed on the fifth day; the catheter is left in until the perineum is healed. On occasions when the catheter has been removed sooner than two weeks after operation, the urine has become more cloudy and perhaps bloody. I believe that it is important to supply adequate bladder drainage by catheter until the tissues about the bladder neck have become free of edema and have had time to granulate. Periurethral abscess has occurred only once in this series of cases.

In comparing the two groups of cases, it appears that their ages were practically the same. (See Table I.) In other respects there was little difference between them. Of recent years, patients have presented themselves for treatment rather earlier than was formerly the case; there were perhaps fewer overdistended bladders in the perineal group. Since vasectomy has been a routine only for the past three years, the earlier cases were more liable to epididymitis, which occurred frequently after both types of operation. In regard to both these points, the perineal group was somewhat more fortunate.

The methods of anaesthesia employed in these two groups of cases were essentially the same. In sixteen one-stage and seventy-nine two-stage suprapubic operations spinal anaesthesia was used sixty-three times, ether twenty-five times and other methods seven times. In one hundred perineal operations, spinal anaesthesia was used fifty-four times, ether thirty-one times and other methods fifteen times. (Table II.)

It is interesting to compare these two groups of cases as regards mortality and length of stay in the hospital. Of the one hundred suprapubic cases, five died following cystotomy. Their ages and the causes of death were as follows:

H. J. E. Age 72. Local anaesthesia. Died of cardiac failure one day after operation.

F. C. R. Age 79. Local anaesthesia. Died of uremia thirteen days after operation.

T. J. S. Age 81. Local anaesthesia. Died of bronchopneumonia nine days after operation.

G. G. Age 82. Local anaesthesia. Died of arteriosclerosis and senility sixteen days after operation.

A. F. B. Age 80. Local anaesthesia. Died of cerebral thrombosis forty-eight days after operation.

In these five cases cystotomy was the only feasible way to drain the bladder. The operation was one of necessity in feeble old men, and, strictly speaking, these cases should not be included among the suprapubic prostatectomies. Of the sixteen one-stage suprapubic prostatectomies, three died:

J. H. Age 64. Spinal. Died of cardiac failure nine days after operation.
H. S. R. Age 73. Spinal. Died of lobar pneumonia eleven days after operation.
J. A. S. Age 65. Local and Gas-Oxygen. Died of hemorrhage from a peptic ulcer.

Of the seventy-nine two-stage prostatectomies, nine died:

J. L. W. Age 40. Spinal. Died of cardiac thrombosis three days after operation.
T. R. Age 75. Ether. Died of cardiac failure one day after operation.
G. C. Age 75. Ether. Died of coronary thrombosis three weeks after operation.
A. S. Age 70. Spinal. Died of phlebitis and cardiac failure twenty-seven days after operation.
W. W. B. Age 75. Spinal. Died of cardiac failure and broncho-pneumonia seven days after operation.
A. W. R. Age 72. Spinal. Died of cardiac failure twenty-two days after operation.
D. P. K. Age 90. Spinal. Died of cardiac failure four days after operation.
W. P. T. Age 74. Spinal. Died of pyelonephritis thirty-three days after operation.
P. M. Age 66. Spinal. Died of general peritonitis, hypostatic pneumonia and cardiac failure six days after operation.

This makes a total mortality of 17%. The mortality of the one-stage prostatectomies was 19%, that of the two-stage prostatectomy 11%.

Of one hundred perineal prostatectomies, three died, a mortality of 3%. The ages and cause of death were:

L. C. H. Age 69. Sacral and Gas-Oxygen. Died of sepsis fourteen days after operation.
G. B. Age 85. Spinal. Died of cardiac failure sixteen days after operation.
F. C. C. Age 76. Spinal. Died of cardiac failure four days after operation.

The average number of days spent in the hospital by the survivors of each group were, for the one-stage suprapubic cases, 41.5 days; for the two-stage suprapubic cases, 52 days; for the perineal cases, 39 days. The period spent in preparing each group for operation is shown in Table III. The number of days between prostatectomy and discharge is shown in Table IV. It will be noted that those who left the hospital within four weeks from the time of operation constituted 58% of the one-stage suprapubic group, 40% of the two-stage suprapubic group and 61% of the perineal group.

From the above comparisons it will be seen that the cases done by the perineal route fared much better as regards mortality and somewhat better as regards rapidity of recovery.

It was a noticeable fact that the perineal cases, as a rule, showed much less postoperative reaction than the suprapubic cases. The latter frequently required hypodermoclysis, sometimes for days; in the perineal group this disagreeable method of administering fluids, except for the routine injection given directly after operation, was employed only in the minority of cases.

In comparing the functional results after operation, we find that a slight advantage lies with the suprapubic group. The suprapubic cases always exhibited perfect control, which they developed within a day or two from the time the catheter was removed. Not infrequently the suprapubic incision would open one or two times, necessitating further urethral drainage, but once it was healed, the bladder behaved satisfactorily. So far as emptying the bladder completely was concerned, both groups have done equally well.

The perineal cases are often much slower in regaining complete control of urination. The great majority develop this within a week after the catheter is removed, but a few cases have incomplete control of the sphincter for a much longer period. Rarely a slight dribbling on exertion persists for a month or two. All except two have eventually gained perfect control, and these two leak only occasionally. A piece of cloth worn next the penis is sufficient to protect the clothing. One of these cases had had a suprapubic prostatectomy ten years before his perineal operation, which may have been a factor in producing his slight incontinence. One case has a perineal fistula, which has persisted for ten months. This fistula has closed several times, only to recur with the formation of an abscess. The urine is very purulent, due, I believe, to a pyonephrosis. Up to the present, the patient's general condition and marked myocarditis have made it appear unwise to attempt to clear up this condition.*

In three of the earlier perineal cases, the rectum was torn at the time of operation. The tear was sutured in all three; it healed in one but in the other two had to be operated upon again. Both healed eventually, but one of these cases brought up the average time spent in the hospital by this group because of a sojourn of one hundred and three days. It is my custom now, while dissecting the rectum off the prostate, to insert the left forefinger into the rectum and be guided by it; this procedure I believe I learned from Arthur Chute.

As a result of experiences with both types of prostatectomy, my present opinion is that the perineal operation carries much less mortality, is less disagreeable for the patient, and requires a shorter stay in the hospital. The difference in functional results, while more favorable to the suprapubic operation, is not sufficiently marked to outweigh the disadvantages of that type of operation. The time required for the perineal operation is from forty to forty-five minutes, which places it well within the limits of spinal anaesthesia, or of what may be called a short etherization. Small stones may be removed through the perineal incision; if the stone is more than three centimeters in diameter or if the situation is complicated by a diverticulum which requires removal, the suprapubic operation should be done. I have seen no pros-

*Since this paper was written, this patient's fistula has healed, let us hope for good.

tate too large to be removed satisfactorily through the perineum, although glands of such size may occasionally occur.

CONCLUSIONS

(1) The two methods of prostatectomy, suprapubic and perineal, are compared as to mortality, duration of stay in the hospital, and functional results. These comparisons are based upon one hundred cases in each group.

(2) Of the suprapubic cases, five died after cystotomy. Of sixteen cases done in one stage, three died, a mortality of 19%. Of seventy-nine cases done in two stages, nine died, a mortality of 11%. The total mortality in the suprapubic group was 17%. Of one hundred perineal cases, three died.

(3) The average stay in the hospital for the suprapubic cases which survived operation was 41.5 days for the one-stage cases, and 52 days for the two-stage. The average stay in the hospital for the perineal cases was 39 days.

(4) In regard to functional results, the suprapubic cases showed a slight advantage, but the difference was not enough to offset the greatly lessened mortality of the perineal group.

TABLE I

COMPARISON AS TO AGES

	Cystotomy only	Suprapubic one-stage	Suprapubic two-stage	Perineal
Under 50	0	0	1	5
50-59	0	5	8	15
60-69	0	9	38	46
70-79	2	2	30	27
80-89	3	0	2	7
	5	16	79	100
Average age	(78.8)	(63)	(67)	(66.14)

TABLE II

ANAESTHESIA

	Cystotomy only	Suprapubic one-stage	Suprapubic two-stage	Perineal
Spinal	All	9	54	54
Ether	done	5	20	31
Gas Oxygen	under	1	1	0
Sacral	local	0	0	7
Combination		1	4	8
		16	79	100

TABLE III

PERIOD OF DRAINAGE BEFORE PROSTATECTOMY

	Suprapubic one-stage	Suprapubic two-stage	Perineal
0-7 days	12	2	55
8-14 days	3	35	25
15-21 days	0	26	13
22-28 days	1	7	3
Over 28 days	0	9	4

TABLE IV

FROM PROSTATECTOMY TO DISCHARGE

	Suprapubic one-stage	Suprapubic two-stage	Perineal
14 days or less	0	3	3
14-21 days	1	11	20
22-28 days	6—58%	14—40%	37—61%
29-35 days	0	18	15
36-42 days	3	11	8
43-49 days	1	6	8
50-56 days	1	3	4
57-63 days	0	2	0
64-70 days	0	0	0
71-77 days	1	0	0
78-84 days	0	1	0
Over 84 days	0	1 (132)	2 (92—103)
	13	70	97

A DRIVE TO REDUCE ACCIDENTS AND DEATHS RESULTING FROM THE OPERATION OF AUTOMOBILES

In order to eliminate the hazards incident to the use of automobiles the New England group of states will join in an educational campaign to be conducted during the month of August, 1930. In addition to the six New England States ten other eastern states and two provinces of Canada will join this movement. The campaign will be made official for each by proclamations issued by the governors of the several states and appeals will be made to municipal authorities, the press, motor clubs, safety councils, civic and commercial bodies to coöperate in the "Save a Life" movement.

The educational features of the campaign will cover two chief causes of accidents: the human element (which is the larger) and the other due to faulty mechanism such as inefficient brakes, poor lights and horns, defective steering mechanism and other safety devices. The systematic and frequent inspection of motor vehicles will be urged. Each state will formulate rules for the details of the plans. Final details of the plans now being formulated will be given to the public very soon. Educational campaigns in schools throughout the country have been of value in reducing automobile accidents among children. People of more advanced age need to know and apply all rules which will reduce the deplorable accident rate incident to the operation of automobiles.

MEDICAL PROGRESS

THE PROGRESS OF NUTRITION

BY FRANCIS LOWELL BURNETT, M.D.*

I. THE NUTRITION OF CELLS

"WE look upon the animal organism as a combustion apparatus which burns and transmutes inert materials into living protoplasm, with the production of heat and vital energy. The manifestations of its work constitute the vital functions of nutrition and metabolism, motility, irritability, and reproduction." Warthin (2nd Ser., *Bul. N. Y. Acad. Med.*, 4:1006, Oct. '28). "In studies of metabolism, however, it is well to remember that chemical events in the organism, though they may be more or less isolated experimentally, form an organized whole. No one process in the body can be rendered abnormal without ultimate effects on other processes. Since there is a harmonious concurrence of events in normal metabolism, and since vitamines individually affect different aspects of metabolism, it is not unlikely that an optimum supply in the food would be one which—apart from the absolute amounts—a definite proportionality obtains among them." This may be seen from growth curves of two groups of rats shown in figure 1. The upper curve shows the

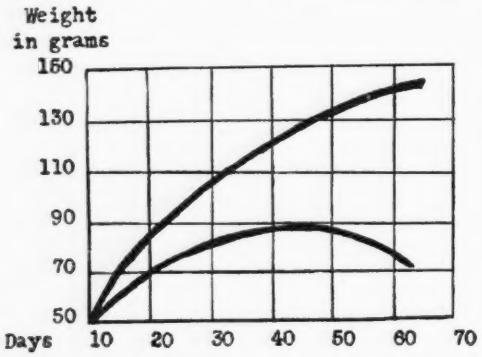

FIGURE 1. The growth curves of two groups of rats; the upper shows the increase of weight of animals consuming a complete food, while the lower represents the weight of animals on a food without vitamin A.

growth of ten animals fed on a complete diet, the lower of a similar group on the same diet without 5 mgs. of cod liver oil a day. "The animals in the lower set . . . all ceased to grow. By the seventieth day six out of the ten were showing serious lesions of the eyes and all would have died soon had not their diet been altered. Those in the other set grew well. . . . The addition which made the difference between health and ill-health, and ultimately between life and death, amounted quantitatively to one part in twenty-five hundred of the total food eaten." Hopkins (*Brit. M. J.* 2:691, Oct. 20, 1923).

*Burnett—Graduate assistant Massachusetts General Hospital, in Dermatological Department. For record and address of author see "This Week's Issue", page 136.

The mechanism of chemical changes in living matter has been described by Evans (Starling's Principles of Human Physiology, Lea & Febiger, Phila., 1930). "All the events which make up the life of plants and animals are accompanied and conditioned by chemical changes of the most varied character. . . . In spite of the enormous diversity of these changes occurring in the body, they may be divided into a relatively small number of types. Nearly all the reactions are reversible. The chief types of chemical change are hydrolysis, deamination, decarboxilation, and oxidation and reduction. Hydrolysis involves taking up of water and a decomposition into smaller molecules. Thus disaccharids, like lactose, take up one molecule of water and give rise to two molecules of monosaccharide. Deamination involves the splitting off from an amino-acid of an NH_2 group; for instance, if glycine is added to some liver cells ammonia is set free. In decarboxilation many amino acids when acted on by bacteria lose a molecule of carbon dioxide and are converted into a corresponding amine. The fourth class of chemical change involves the processes of oxidation and reduction. In almost every living cell the largest amount of energy available for the discharge of the functions is derived from food stuffs, and the very large evolution of energy attending oxidations is apparent. Thus in the conversion of a gram of glucose into CO_2 and water there is an evolution of 677, of glycerol 397, and of the fat trimyristin 6650 calories, evolved. The energy thus liberated may be used as heat, converted into work, or employed in effecting other chemical reactions. Most of the foodstuffs which undergo oxidation are comparatively stable substances, but by the action of hydrogen peroxide and the trace of an iron salt acting as a catalyzer, effective oxidation occurs; and there is considerable evidence that the oxidizing agent and catalyzer are produced in the living cells."

The nature of the foodstuffs oxidized to provide energy in muscular exercise has been studied by Rapport and Ralli (*Am. J. Physiol.* 83:450, Jan. '28) in normal dogs. After exercising them on a treadmill the animals were fed on a normal, a high fat, and a high carbohydrate diet, and the metabolism was determined. The evidence deduced was that "even in mild exercise of short duration carbohydrate is not the exclusive source of energy for muscular contraction. . . . The muscles, like the tissues of the body as a whole, oxidize carbohydrate, or fat, or both, . . . the percentage of each depending upon the proportions in which these substances are presented to them in available form." In

another study (*Ibid.*, 85:21, May '28) on phlorhizinized animals these investigators found that "even though a hyperglycemia exist there is a diminution in the oxidation of carbohydrate by the organism as a whole, the muscles sharing in this to at least an equal degree. . . . And the fuel requirement in both rest and exercise is provided by the oxidation of fat to a greater extent than in the normal animal."

II. ESSENTIAL NUTRITION AND SLEEP

A failure of nutrient substances to constantly form a chemical union with the protoplasm of cells for their development and maintenance is evidently an early and important factor in the deviation from a healthy state and the pathogenesis of disease. The processes involved in essential or anabolic nutrition are exceedingly complex and not well understood, but the effect produced clinically by dietary adjustments is often beneficial. For instance, a limitation in the amount and kind of food consumed has been known for some time to improve the health of patients with some of the metabolic diseases, especially diabetes mellitus. The reduction of food has been generally thought of as partial starvation; but this is evidently not the case, because if the intestinal contents are free of irritating factors, the absorption of nutrient substances as determined by the intestinal rate is increased. If this procedure is applied clinically by educating patients how and what to eat according to the normal indices of absorption, better and presumably more nearly normal nutrient substances enter the body for the acquisition of a state of health. Under these circumstances some of the metabolic diseases may be cured. The health of anabolic nutrition has been described by Burnett (*Am. J. Pub. Health*, 19:1215, Nov. '29).

An edifying address on the restricted diet or starvation has been given by Spriggs (*Lancet* 1:485, Mar. 9, '29). In conclusion he writes in part: "Total starvation, fluid being supplied, can be borne by many individuals for long periods without permanent harm. . . . The alimentary canal is rested, but the chemical activities of the body go on as before, the tissues being fed from the body's store. During the fast the blood-pressure and pulse-rate fall. The blood tends to become more concentrated in nitrogenous matter and contains more fat. . . . Albumin generally appears in the urine. Partial fasting if practiced for long, as during wartime shortage, benefits obesity, diabetes, and gout, but increases the tendency to many other diseases. . . . A low caloric diet of ordinary foods is valuable in obesity. . . . The object of treatment is not only to reduce weight at the time but to teach the patient a régime that can be carried on at home. Severe hunger cures and single food cures do good to many people but, if prolonged, involve danger." The effect of fasting on the reflexes of the body has been observed by Lee (*Am. J. Physiol.* 90:184, Sept. '29). In the experiment, human subjects fasted for several days and the knee jerk, Romberg, and salivary reflexes were determined before, during, and after the fast. The results obtained were that the knee jerk decreased, the Romberg showed a slight increase in steadiness, and salivation decreased during fasting.

During the period of the greatest tissue development in young animals sleep is an essential requirement, and the loss of sufficient sleep at this or any time must be a factor in producing essential malnutrition. The effects of prolonged sleeplessness on man was observed by Kleitman (*Am. J. Physiol.* 66:67, Sept. '23). The results obtained in several persons were that blood sugar, alkaline reserve of the blood and plasma, percentages of hemoglobin and corpuscles, body weight, metabolic rate, appetite, temperature, and ability to do mental arithmetic and name letters all showed no variation during the period of sleeplessness. But respiration, heart rate, blood pressure showed a marked decrease from insomnia. Reflexes were obtained after a period of sleeplessness but they were sluggish and a positive Babinski could not be elicited in every subject. On the other hand, from observations made by the same investigator (*Ibid.*, 84:386, Mar. '28) on puppies kept awake for several days all showed a progressive muscular weakness, sometimes leading to coma and death. Anemia of the brain is not a necessary condition for sleep in these animals. In a study of exhaustion from lack of sleep in rabbits, Leak, Grab, and Senn (*Am. J. Physiol.* 82:127, Sept. '27) find a gradual loss of weight, and a decrease in temperature, pulse, and respiratory rates. As another part of the study, Bast et al. (*Ibid.*, 82:131 & 140, Sept. '27) found in microscopic examinations of the nerve tissue a decrease in the chromatin material of the nuclei, granular Nissl bodies, and vacuoles in the cytoplasm.

III. DISORDERS OF THE NUTRITIVE APPARATUS

"Food in the alimentary canal is not in the body but merely enclosed" (Cannon, The Mechanics of Digestion, Longmans Green, London, 1911). On this account the amount of nutritive material that passes through the body does not have a direct bearing on the nutrient substances the cells assimilate. But if the digestive system is looked upon as a highly perfected nutritive apparatus variations of its action and essential nutrition are largely due to variations in the alimentary mixture and to emotional disturbances.

In the rate of evacuation of various foods from the normal human stomach Wilson et al. (*Arch. Int. Med.* 44:787, Dec. '29) have generally confirmed previous observations. All liquid meals begin to leave the stomach immediately, and solid meals as soon as they reach

the pyloric sphincter. With meals composed of one kind of food, however, the carbohydrate is discharged the most rapidly, protein next, and fat is retained the longest. Crandall (*Am. J. Physiol.* 84:48, Feb. '28) observed that gastric secretion in dogs is diminished by physical exercise. Hartmann and Elman (*J. Ex. Med.* 50:387, Sept. '29) have observed the effects of the loss of gastric and pancreatic secretions on the bodies of dogs, and found that insufficient gastric juice results in dehydration and alkalosis and a loss of pancreatic fluid in dehydration and acidosis. To remedy the disorder a solution may be given which provides an abundance of water, sufficient fixed anion Cl′ and Na+, K+, and Ca++, and an excess of fixed base over acid in the form of B— lactate. Smith et al. (*J. A. M. A.* 93:1932, Dec. 21, '29) write on the gastric manifestations associated with a spastic colon, and infer from the study of a few patients that a recurrent epigastric pain is often associated with a spastic condition of the colon. On the other hand, Monroe and Emery (*Am. J. Med. Sci.* 177:389, Mar. '29) irritated the colon of dogs with turpentine and found that the emptying time of the stomach was not changed. Wolfer and Christian (*Arch. Surg.* 17:899, Dec. '28) have made numerous determinations on fecal amylase and have found it to vary a great deal in normal persons according to the diet. The rate of passage of inert materials through the digestive tract of man and animals has been studied by Hoelzel (*Am. J. Phys.* 92:466, Mar. '30). The materials studied were thread, rubber, seeds, glass beads, and various metals, and, while the rates varied greatly, they were more or less proportioned to the specific gravity of the materials used. In a study of the gradients of pregnant animals Alvarez and Hosoi (*Am. J. Obs. and Gyn.* 19:35, Jan. '30) have found out that the rate of rhythmic contraction in the small bowel was slightly slowed, the irritability was lessened, and the gradient of the latent period was reversed.

The effect of emotion on the digestive system has been described by Alvarez (*J. A. M. A.* 92:1231, Apr. 13, '29). In this comprehensive review of the literature much experimental evidence has been collected to show that emotions can stimulate or inhibit not only peristalsis but also the flow of salivary, gastric, and pancreatic juices. The author suggests that patients be warned against eating when absent minded, mentally upset, or greatly fatigued. McNealy and Willems (*Surg., Gyn. and Obs.* 49:794, Dec. '29) observed the absorption of glucose from isolated loops of ileum and colon of dogs. Little or none of the sugar solution was taken into the body from the colon, but from 23-59% was absorbed from the ileum.

Chronic Intestinal Indigestion (Coeliac Disease) is the title of an article written by Little (*Canad. M. J.* 20:500, May '29). The author reports the cases of a few children in which he applied a high protein diet with gratifying results. Holmes and Starr (*J. A. M. A.* 92:975, Mar. 23, '29) report a few cases of a nutritional disturbance in adults resembling celiac disease and sprue. The relation of migraine to functional colon disease has been studied by Jordan (*Trans. Am. Gastro-Intes. Asso.* 1928 p. 332). Of the twenty-five patients observed all but two were habitually taking laxatives, oils, or enemata; and the two had "soft mushy stools". Freedom from headaches was brought about by rest in bed, the elimination of cathartics, and the ingestion of a simple, wholesome diet without raw fruits, fried foods, or vegetables containing much roughage.

Kantor (*Bul. N. Y. Acad. Med.* 5:757, 1929) has reviewed 2,500 cases of common affections of the colon, and finds 50% suffering from constipation, 20% from an irritability of the large gut, and 20% from colonic anomalies. In treatment, the author remarks that "cathartics have no place in the routine treatment of constipation". In the treatment of constipation Soper (*Med. Herald and Physiotherapist*, July '29) remarks "fifty per cent. of patients . . . who consult us because of constipation are in reality suffering from the habitual use of cathartics and enemas. . . . To restore normal function, the patient must be instructed in the rudiments of colonic physiology." Gilbert (*Cal. and West. Med.* 30:330, May, '29) states that bland, nonirritating foods are indicated and cathartics condemned. And Callander (*Southwestern Med.* 13:428, Oct. 1929), writing on functional colitis points out that it is often caused by the misuse of physic and laxatives, and advises a diet free of acid fruits, oils, and sweets.

The effects of acid and alkaline diets have been studied by Bauer (*Med. Klin.* 25:1506, Sept. 27, '29) in the treatment of leucorrhoea. Twenty women were given a diet of meat, fish, eggs, bread, sweets, etc., and acid am. phosphate, and the discharge became worse. But another group of thirty consumed raw and cooked vegetables, fruits, nuts, and milk, and the leucorrhoea improved.

IV. MILK AND THE NUTRITION OF THE YOUNG

An understanding of benefits derived from the most perfect food—milk—enhances its use in various forms of malnutrition. In a review of the vitamin content of milk used in infant feeding, Macy and Outhouse (*Am. J. Dis. Children*, 37:379, Feb. 1929) have collected and discussed many important facts. They assert that human milk contains the same amount of vitamin A, but only half as much as vitamin B, as cow's milk. In modifying, however, the vitamins may be dissipated and made inadequate. Consequently they point out that in making up formulae the vitamin content as well as the ordinary constituents should be taken into account. They also advocate the adherence of women through-

out pregnancy and lactation to an abundance of fruit, vegetables, dairy products, and glandular tissues; and the early ingestion of vitamin containing foods to the infant. Courtney and Brown (*Canadian M. A. J.* 19:51, 1928) have made a comparison of the buffer capacity of various milk mixtures used in infant feeding. Breast milk, butter soup, lactic acid milk, pasteurized milk, and various commercial preparations were essayed, and butter soup and breast milk required the least acid to bring them to a p^h concentration of 3.75. The results suggest that better nutrition is brought about by combining an acid milk rather than sweet milk with cereals in infant feeding.

The relation of rate of growth in infants to diet has been investigated by Daniels et al. (*Am. J. Dis. Child.* 37:1177, June '29). They observed the rate of growth of two groups of infants. One was fed on modified cow's milk with cod liver oil, while the other received the milk alone. The latter group did not weigh so much at the same age, excreted less creatinin, suggesting less muscular development; and there was not an exact parallelism between the amounts of calcium, phosphorus, and nitrogen retained. Scheltema (*Nederland Tijdsch. v. Genesk.* 73:1058, March 2, 1929) is convinced that feeding infants too often and too much is often a cause of indigestion. With signs of indigestion in breast feeding, the interval should be increased to four hours. With modified milk even this interval may be extended at times with beneficial results. Moriquand (*Arch. d. Med. des Enfants*, 32:395, July '29) emphasizes the value of a moderate diet in the prevention of rickets and scurvy in infants; for the dystrophia caused by artificial underfeeding does not present the symptoms of true rickets, but without vitamin C a typical scurvy may ensue. In artificially overfed infants, digestive disorders occur favoring the development of rickets, but scurvy does not develop even if the food is deficient in vitamin C.

The health habits of young children have been described by Stone (*Virginia Med. Monthly* 56:7, April '29). He writes "the simple but fundamental rules of health are not given the proper emphasis in discussing the care of children with their parents. . . . Too hurried eating and insufficient mastication are often responsible for vague digestive disturbances. . . . Not only is a properly balanced diet essential if the child is to have the building materials for a strong body, but the food must be properly prepared. . . . The child who will not eat has long been a problem. . . . The causes of this difficulty are many. . . . The effect of eating between meals and too many sweets in the diet is well known. . . . A common cause also is too much solicitude on the part of the parent. . . . Dawdling at table . . . should not be permitted. If food is not eaten within a half hour . . . it should be taken away and nothing given until the next meal." In the underlying disturbances of metabolism in the nervous child, Cameron (*British M. J.*, 1:185, Feb. 2, '29) states that these processes are much less stable in children than in adults, and many biochemical derangements, as eczema, tetany, convulsions, urticaria, and asthma, occur. To relieve the nervous child, the author advocates a reduction of the fat to within the limits of tolerance of the individual child, a freer ingestion of easily absorbed carbohydrate, and the provision of the daily deposit of alkali.

The value of bread in nutrition has been tested experimentally in rats by Mottram (*Brit. Med. J.* 1:88, Jan. 21, '28). Bread is an inadequate food for nursing animals; for their young grow at about half the rate of those of mothers consuming bread and milk. Nursing mothers were also fed bread, and meat, casein, meat extract, gluten, and vitamins B and D, etc. The addition of a good protein enhanced the value of the food. In conclusion, the author states "Animal proteins, even gelatins, supplement the proteins of bread, and the mixture has a high biological value."

V. VITAMINS, OCULAR MALNUTRITION, AND SINUS DISEASE

"Vitamins in Food Material" (Smith, U. S. Dept. Ag. Circular No. 84, Nov. '29) is a valuable reference work published by the government. In the first portion of the pamphlet all of the vitamins are described. The second part contains the reported occurrence of A, B, and C in food materials; then a selected list of references to the literature reporting vitamin occurrence; and finally, a list of references to the literature on the technique for the quantitative determination of the vitamins. An excellent and exact review of the best recent articles on the effects of inanition and malnutrition on growth and structure has been compiled by Jackson (*Arch. Path.* 7:1042, June, 8:81, July; and 8:273 Aug. '29). A thorough investigation of the carbohydrate content of foods by McCance and Lawrence (Medical Research Council Series 135, H. M. Stationery Office, 1929, London) has been published by the English Government. The contents consist of tables of the carbohydrate contents of plant foods and their value in nutrition. The results obtained in the investigation were that starch alone was hydrolyzed by the digestive enzymes of mammals and utilized as a carbohydrate. The other polysaccharides, like cellulose and the pentosans, are reduced by bacterial action and form fatty acids.

A failure in the nutrition of the lens and the vitreous is pointed out by Smith (*Indian Med. Gaz.* 63:619, Nov. '28) as a possible cause of cataract and glaucoma; for in these diseases intraocular pressure prevents the circulation of the lymph by which nutrient substances can be

assimilated and waste products discharged. With diets generally deficient but especially low in vitamins A and D, Magee and Anderson (*The Lancet* 1:12, Jan. 5, '29) have frequently found peptic ulcers in guinea pigs. The lesions varied from complete perforation to congestion and degeneration of the mucous membrane.

From its first occurrence, xerophthalmia has been known as a deficiency disease which is brought about because the fluid bathing the eyes of deficient animals loses its bacteriocidal power, and germs lighting on the surface of the cornea develop and multiply. In an article by Green and Mellanby (*Brit. Med. J.* 2:691, Oct. 20, '28) Vitamin A as an anti-infective agent is described and discussed. In a large group of rats dying from vitamin A deficiency, 90% had an abscess at the base of the tongue, 44% an infection of the urinary tract, 38% xerophthalmia, 21% an enteritis; pus was formed in the nasal sinuses in 20%, and in 9% a septic bronchopneumonia occurred. The presence of vitamin A does not prevent the development of infections. In the summary, the authors state that these lesions commonly occur in man, and this fact should be considered in their study and treatment. Infections of the upper respiratory tract of rats has been observed by Shurly and Turner (*J. A. M. A.* 94:539, Feb. 22, '30) in rats without vitamin A. Staphylococci and an organism resembling the pneumo-bacillus were generally isolated. And in a discussion of deficiency diets in relation to diseases of the sinuses, Dean (*An. Oto., Rhin., and Laryn.* 38:607, Sept. '29) recommends a diet rich in vitamin A, and an increase in vitamin B for the treatment of sinus infection. And Eyermann (*J. A. M. A.* 91:312, Aug. 4, '28) reports a group of patients in whom foods were found to cause a nasal allergy. Beef, eggs, orris root, and various other foods when ingested by some of these patients caused nasal blocking, rhinorrhoea, and sneezing.

VI. BERIBERI AND NERVE DISORDERS

Beriberi in infants is the subject of a study by Waring (*Am. J. Dis. Children* 38:52, July, '29). The subject is interesting and is likely to be valuable, since only a few infants with this disease have been reported in the United States. The symptoms found were gastro-intestinal disturbances, weakness, pallor, oliguria, anorexia, and sluggish knee reflexes; and the fully developed disease was characterized by oedema, aphonia, peripheral neuritis, and cardiac hypertrophy. The patients responded to a diet rich in vitamin B. Aalsmeer and Wenckabach (*Wein. Arch. f. in. Med.* 16:193, Jan. 20, '29) have made a comprehensive study of the heart in beriberi. In early stages enlargement is apparent, but as the disease progresses the size of the heart increases rapidly and decompensation of the right half occurs. Later, the liver becomes very large as the result of engorgement. Ordinary cardiac treatment has no effect, but by the ingestion of vitamin B, the heart rapidly returns to its normal activity, form, and size.

Cannon (*Trans. Royal Soc. Trop. Med. and Hyg.* 23:1, Nov., '29) has given an outline of the pathology of beriberi. The body appears well nourished but is bloated, the brain shows marked oedema, there is a clear fluid in the pericardium, the right ventricle is much enlarged and is often three times the size of the left. The lungs, stomach, and intestines are congested and oedematous. The liver is often cirrhotic, the spleen congested, and the kidneys show a parenchymatous degeneration. In sections of the vagus, phrenic, and anteriortibial nerves there is cloudy swelling, the medullary sheath is fragmented and the axis cylinder has a granular appearance. A microscopic examination of the nerve system of rats fed on diets deficient in vitamin B_1 and B_2 has been described by Stern and Findlay (*J. Path. and Bact.* 32:63, '29). The histological changes found consist of swelling and vacuolation of the anterior horn cells of the spinal cord with the deposition in them of lipochrome pigment, an increase in the satellite cells, and an increase in the number of Pi granules in the peripheral nerves.

A very comprehensive report on the biochemical investigation of vitamin B has been made by Kruse and McCollum (*Physiol. Rev.* 9:126, Jan. '29). The following opinion is given in the summary. "'It is at least possible . . . that workers in discarding inactive fractions have unwittingly been throwing away the very thing they were laboriously seeking'. . . . Where there was one substance awaiting isolation, there are now . . . many. At present there is no clarity in regard to the various essential components described by investigators; for instance, whether all the thermostable factors are identical, or whether the alkalistable factor is the same as a thermostable factor." And Smith (*Pub. Health Rep.* 45:116, Jan. '30) has worked out a method for evaluating the potency of antineuritic concentrates. "The method is based on the uniform production of polyneuritis in rats on a diet in which the thermolabile component of the vitamin B complex is the sole limiting factor and the determination of the minimum curative dose, injected intravenously, of a given concentrate." Specificity, rapidity, and accuracy are claimed for the method. An article on some physiological and biochemical aspects of deficiencies, with special reference to vitamin B, has been contributed by Cowgill (*An. Int. Med.* 3:230, Sept. '29). The author writes "Studies of these many deficiencies give a new content to the idea expressed in the term diathesis. What seems to be a constitutional predisposition toward certain diseased conditions may, after all, be the response of the organism to a deficient diet." Bechdel et al (*J. Bio. Chem.* 80:231 Nov. '28) give a report on the synthesis of vitamin B in the rumen of

the cow. A gastric fistula was made in a heifer that had grown to maturity on food entirely without vitamin B. Twelve hours after feeding, the contents of the rumen were removed, fermented, extracted with alcohol, and dried. This extract was fed to rats as the only source of vitamin B, and found to contain it. The result indicates that the cow has the capacity to form and utilize vitamin B from a food entirely devoid of it.

The three D's, diarrhoea, dermatitis, and depressions, succinctly characterize one of the established deficiency diseases. Consequently, it is logical to suppose that incomplete diets may have an effect on other mental depressions. At any rate, Gregg (*New England J. Med.* 201:420, Aug. 29, '29) in an article on avitaminotic depressions has pointed out the possibility of malnutrition as one of the causes of a psychosis. In a somewhat similar way, Wertham (*Arch. Neur. and Psych.* 21:1128 May '29), has analyzed nine hundred and twenty-three psychiatric patients and has found growth disorders in 21%. This also suggests that malnutrition may have an effect on the functioning of the brain.

VII. SCURVY, PELLAGRA, AND SKIN DISEASES

"Our Fathers and the 'Scorby' ", by Shipley (*J. Am. Diet. Asso.* 5:1, June '29) forms an interesting historical narrative of the deficiency disease. And Meyer and McCormick have published a book of studies on experimental scurvy in the guinea pig (Stanford University Press, 1928). While various investigators have contributed to the pathology of scurvy, Dalldorf (*J. Ex. Med.* 50:293, Sept. '29) has confirmed some of the previous observations by finding a degeneration of intercostal muscles especially, in guinea pigs. And the tenderness over muscles in scurvy is evidently due to this lesion. The association of bowel disease with vitamin C deficiency in monkeys has been noted by Mackie & Chitre (*Indian J. M. Research* 16:77, July, '28). They believe that a defective dietary by itself powerfully predisposes to bowel derangements and acts probably by reducing the natural resistance of the intestinal epithelium to the invasion of bacteria. For on post mortem examinations of these animals, the large intestine was found to be congested, thickened, and ulcerated, and resembled that of dysentery.

Although pellagra seems to be generally associated with a functional digestive disorder, Turner (*Am. J. Trop. Med.* 9:129, Mar. '29) reports its occurrence in sixteen patients with organic lesions of the alimentary canal. The prevailing lesion was stricture of the rectum. From an extensive review of the papers published on pellagra, Wilson (*Proc. Int. Cong. Med.-Cairo* 2:461, '29) concludes that, "the essential cause of the disease is a deficiency in the value of the protein intake. . . . And the relation of vitamin B_2 to protein metabolism suggests that in persons living on the borderline of sufficiency in this respect the value of protein intake would be the determining factor in the incidence of pellagra." Goldberger, Wheeler et al. (Hygienic Lab. Bull. No. 153 '29, U. S. Pub. Health Service) have put many of their papers together in a study of endemic pellagra in some cotton-mill villages of South Carolina. The pamphlet gives very comprehensive details of the disease. The value of casein and a high protein diet in the prevention of pellagra has been studied by Goldberger et al. (*Pub. Health Rep.* 45:273, Feb. 7, '30). Dogs were fed a basic black-tongue producing diet to which 50-150 gms. of purified casein was added. All of the animals showed signs of the deficiency disease in 25-67 days.

Skin diseases caused by internal disturbances have been reported by Black (*Northwest Med.* 28:220, May, '29). The disorders referred to are pruritis, furunculosis, and eczema in diabetes; erythema, alopecia, and urticarias in hypothroidism; and psoriasis, dermatitis herpetiformis, and herpes, in nervous diseases. Klander (*Arch. Derm. and Syph.* 19:198, Feb. '29) reviews the clinical aspect of allergy in skin diseases. "The allergic state is one in which a person is always hypersensitive to one, and usually a number of, protein and non-protein substances; and is characterized by a syndrome comprising . . . hay-fever, asthma, urticaria, angioneurotic oedema, and eczema." In the relief of the allergic state Haxthausen (*Arch. f. Dermt. u Syph.* 151:85, '26) concludes from a study of two hundred patients that as much was accomplished by a restricted diet of milk and vegetables as by the elimination of offending substances from cutaneous tests. A somewhat similar opinion has been expressed by Scholtz (*Med. J. and Rec.* 127:670, June 20, '28). "The full clinical value of anaphylactic tests (in dermatoses) can be obtained only with the proper correlation of the chemical and laboratory data."

The relation between colic and eczema in infancy has been observed by White (*Am. J. Dis. Child.* 38:935, Nov. '29). In this study the author writes "trial diets seem to be more effective than skin tests in determining whether a given food is responsible for the dermal or intestinal disorder. . . . The usual sequence is colic, diarrhoea, vomiting—at 2-4 weeks, and eczema at 10 weeks of age." In the treatment of eczema in infancy, Robinson (*South. Med. J.* 22:936, Oct. '29) reports the value of a milk-free diet in a few patients. The diet consisted of meat broths, cereals, vegetable purees, and 0.5 dram of cod liver oil. Orange and prune juice, and apple sauce were not tolerated.

Lesions of the skin of animals given a food without vitamin B have been reported in various articles. Cowgill (*Arch. Path.* 7:197, Feb. '29) in a study of some dogs has observed lesions on

the legs in a moderately advanced stage of malnutrition. And lesions ultimately progressing to ulceration were healed by the addition of vitamin B to the diet. Findlay and Stern (*Arch. Dis. Childhood*, 4:1, Feb. '29) have observed lesions of the skin in rats that resemble "Pink Disease". The animals becoming malnourished without vitamin B showed a congestion of the cutis and oedema. Later, the cells of the epidermis showed keratinization and a scaly desquamation of the horny layer. Often in these places the cells had become atrophied and were reduced to a single layer. Similar lesions were also found in the mouths of the animals. The appearance of the tissues microscopically resembles black tongue in dogs.

VIII. RICKETS, OSTEOMALACIA, TOOTH DECAY, AND ARTHRITIS

The prevention of rickets by ultraviolet irradiation has been studied by Selkuk et al. (*J. A. M. A.* 91:2057, Dec. '28), who claim that in 98% of almost 400 patients irradiated by this method rickets did not occur. The unusual association of post infantile rickets with osteomalacia has been observed by Blank and Graves (*Am. J. Dis. Child.* 33:84 July '29). The authors state that "although rickets and osteomalacia have not been proved essentially identical, the observations recorded suggest that there may be no definite dividing line between the two conditions. Collazo et al. (*Arch. f. Klin. Chir.* 158:214, Feb. 8, '29) have confirmed experimentally in rats the value of vitamin D in the regeneration of bone and callus formation in fractures. Somewhat similar, though more extensive, observations have been made by Schilowzen (*Mitt. a.d. Grenzgab. d. Med. v. Chir.* 41:531, Oct. 16, '29). In scurvy, a callus does not form and a fracture leads to pseudo-arthroses, but in rickets and polyneuritis the formation and ossification of the callus is much delayed.

Through the Indian research fund, Wilson et al. (*Indian J. Med. Research* 17:339, 881, 889, and 903, Oct. 29 and Jan. '30) have made valuable and detailed studies of osteomalacia. In part one the clinical symptoms with the roentgen ray changes in the bone are described. The chief complaint is stiffness and pain in the back which affects the posture and gait of the patient. Roentgen ray examination generally reveals deformity and rarefication of the pelvis. In the second section, a consideration of the blood usually shows a slight anemia with a lymphocytosis; and an examination of urine and feces suggests the possibility of an infective process in the intestine. Dietary factors in osteomalacia are considered in part three. In this study a lack of vitamin D and sunshine were the predominating factors. An excess of cereal foods aggravates the disease and a cure cannot be effected without fresh food or the ingestion of vitamin C. They state in the final section that dental caries was invariably coexistent with late rickets or osteomalacia.

Malnutrition of the teeth as a factor in the development of caries is becoming more definite. In an extension of her study on caries, Mellanby (*Brit. Dental J.* 49:769, July 16, '28) points out that "the high incidence of dental caries in children . . . is associated with defective structure." And the resistance of the teeth to caries and attrition can be influenced by diet independently of their original structure. . . . The results suggest that the problem of dental caries is fundamentally a problem of nutrition." In another study, Mellanby and Pattison (*Brit. Med. J.* 2:1079, Dec. 15, '28) illustrate microscopically the arrest of dental caries in the teeth of children by the addition of cod liver oil, egg yolk, and extra milk to the food. Somewhat similar results have been obtained by Boyd et al. (*Am. J. Dis. Child.* 38:721, Oct. '29). They point out that the arrest of dental caries depends on the adequacy of all essential factors in the diet, and that the excessive ingestion of starches and sugars evidently limits the amount of the other essential foods.

With the inauguration of an international commission for the study of arthritis, malnutrition of the bones and joints from dietetic factors has received some attention. Thus in England a booklet on arthritis has recently been written by Glover and published by the Ministry of Health (H. M. Stationery Office No. 52, '28). "Diet is a most important part in the treatment of arthritis. Undernourished patients . . . require to be educated to take a full and generous diet, rich in animal fat, and similar to the diet given tuberculous patients." Cod liver oil or its modern extractions are useful with this type of patient. On the other hand, for overweight patients, stout patients with gout, and indeed most of the osteo-arthritics, a reducing diet is indicated. And Pemberton (*Am. J. Med. Sci.* 178:593, Nov. '29) writes in a discussion of this disease, "the intestinal tract plays unquestionably a large rôle, dependent upon the still unmapped processes of fragmentation of the food stuffs and the formation of the products of normal bacterial activity." The nutritional aspect is largely concerned with a lowered caloric intake, but starches and sweets are evidently more deleterious than other foodstuffs. The measures advocated by Hall (*N. E. J. Med.* 200:369, Feb. 21, '29) to improve the nutrition of arthritics are meat in moderation, one quart of milk, extra butter, and cheese, two eggs, a leafy vegetable, and considerable fruit daily. Cereals and breads of whole wheat and cod liver oil are also recommended. Fletcher and Graham (*Am. J. Med. Sci.* 179:91, Jan. '30) take an advanced point of view in their article on the large bowel in arthritis. In a roentgen ray study of the colon of 60 patients, they found atony, changes in the haustral markings, and extensive looping and redundancy. The changes

are explained as a result of malnutrition, and with an improvement in the tone of the colon from better nutrition, the arthritis was relieved.

IX. ANEMIA

On account of the regeneration of corpuscles from liver and protein food, pernicious anemia is becoming recognized as a deficiency disease. An article discussing this hypothesis has been written by West (*Ann. Int. Med.* 3:132, Aug. '29). In conclusion the author states that there seems to be "substance free in liver, and freed by gastric digestion in meats and probably other food stuffs, which is necessary for the formation of adult red blood cells." Interesting observations have been made by Zadek (*Klin. Wochenschrift*, 8:1527, Aug. 13, '29) on the pathogenesis of pernicious anemia. In the first place, he points out that an examination of the blood during the period of complete remission does not give any sign that the person has a grave anemia; and secondly, patients who recovered from pernicious anemia by liver treatment and then died of an intercurrent disease showed a normal bone marrow. From this fact it is evident that nutrient substances must have been assimilated by the marrow cells to restore them to a normal condition, so that they could bring about a complete regeneration of the corpuscles. This seems to be merely another phase of anabolic nutrition.

Hart, Sternbock et al. (*J. Bio. Chem.* 72:299, Mar. '27) have continued their studies on iron in nutrition and have found that the anemia induced in rats by a milk—Fe_2O_3 diet can be cured by ingesting the ash or alcoholic extracts of lettuce or cabbage. Purified $Fe_2SO_47H_2O$ had little, and Fe_2O_3 had no influence on blood building. In another study (*Ibid.*, 77:777, May '28) these investigators found that 0.5 mgs. of some of the inorganic iron salts fed six times a week are ineffective in curing this anemia, but similar ashed residues of beef liver, lettuce, and yellow corn brought about complete regeneration. And in a third study (*Ibid.* 77:797, May '28) liver extract whole or ashed, was also found valuable; and copper from a H_2S fraction of liver extract was found to be very active in curing the anemia. Myers and Beard (*J. A. M. A.* 93:1210, Oct. 19, '29) have supplemented this work and not only find copper valuable, but also traces of manganese, nickel, germanium, and arsenic equally beneficial in the regeneration of corpuscles in rats. The iron content of many plant and animal foods has been determined by Peterson and Elvehjem. Of the one hundred and fifty foods examined, parsley with 0.0192% heads the list and lemon juice with 0.00015% has the least iron. In the decreasing order of their iron content come dried legumes, green leafy vegetables, dried fruits, nuts, cereals, poultry, green legumes, roots and tubers, non-leafy vegetables, fish and fruits.

Through the work of Castle (*Brit. M. J.* 1:1120 June, '29), the stomach of normal persons has been found to secrete a substance which when ingested with meat by patients with pernicious anemia brings about blood regeneration similar to that brought about by liver. With this principle, Sturgis and Isaacs (*J. A. M. A.* 93:747, Sept. 7, '29) have found a similar response of the bone marrow by feeding these patients preparations made from fresh hog stomach. In the treatment of pernicious anemia as now practiced by Minot et al. (*Am. J. Med. Sci.* 175:599, May '28) liver extract is generally employed. In extreme cases an extract made from 500-600 grams of liver is consumed daily, and continued until a count of 3,000,000 cells has been reached; then it is reduced to the extract of 300-400 grams of liver; and this is the amount ingested daily for patients with a moderate degree of anemia. The remainder of the diet is adequate and well balanced, and without an unusual amount of protein. Vegetables and fruits are given liberally, but starchy, sweet foods, and fats especially are reduced. Dilute hydrochloric acid U. S. P. may be valuable in decreasing gastro-intestinal disturbances. In another paper, Minot et al. (*Am. J. Med. Sci.* 75:581, May '28) record the effects of liver therapy on anemias other than pernicious. In the secondary type, the treatment is generally not beneficial. Several patients with an idiopathic anemia made a response similar to that produced in pernicious anemia from liver therapy. Sprue is benefited by the treatment. The value of liver in haemorrhagic anemia has been studied by Murphy and Powers (*Surg., Gyn. and Obs.* 48:480, Apr. '29), and found valuable. Of the twenty-four patients, six were given also large doses of iron. A control group of seven received neither iron nor a special diet for a few weeks and showed little change in the haemoglobin or regeneration of corpuscles, whereas the majority of the others improved.

X. GOITER, EPILEPSY, AND TUBERCULOSIS

A report on the distribution of endemic goiter from thyroid goiter in the United States has been published by Olesen (*U. S. Pub. Health Reports* 44:1463, June 21, '29). The highest ratios of 10-27 per 1000 were found in Michigan, Wisconsin, Montana, Wyoming, Utah, Idaho, Oregon, and Washington. And Maine, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, Maryland, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Texas, and Oklahoma had a ratio of only 0.25-1.00 per thousand. The other states had intermediate ratios of from 1.00 to 10.00 per 1000. A determination of the iodine content of vegetables grown in different parts of South Carolina has been made by Weston and Remington (*J. A. M. A.* 92:216, June 29, '29). From this investigation, the green, leafy vegetables were found to be the richest in

iodine, root vegetables come next, and potatoes last. Cereal grains are a very poor source of iodine.

A lymphadenoid goiter has been produced in rats by Williamson, Pease, and McCarrison (*Brit. Med. J.* 1:6, Jan. 5, '29) by an incomplete food. The diet consists of white flour, meat residue, olive oil, and a salt mixture containing 0.45% of potassium iodide. In the pathogenesis, lymphocytes collect at the hilum of a gland unit and fill the perivascular lymph spaces; then the parenchyma becomes hyperplastic, and the overgrowth so extensive that epithelial cells fill the follicular spaces. Still later the lymphocytes increase but the epithelium becomes atrophic. Finally, the lymphocytosis ceases and the reticulo-endothelium becomes fibrosed.

Henderson (*U. S. Vet. Bur. M. Bull.* 6:122, Feb. '30) tried the ketogenetic diet in epilepsy on a small group of patients for eight months. The results obtained were that the attacks were generally unchanged, but the patients seemed less irritable. In concluding, he states, "it is the conviction of the writer that this form of therapy does not have a place in the treatment of epilepsy."

The successful treatment of tuberculosis is largely the result of health education. In an article by Galdston (*Am. Rev. Tuber.* 18:264, Sept. '28), the prevention of tuberculosis by health education is discussed, and practitioners are advised to take a more active part in trying to keep those they care for well. A few years ago a diet elaborated by Hermannsdorfer and Goerson (*München. med. Wochenschr.* 73:47, Jan. 8, '26) for the treatment of tuberculosis appeared. The purpose of the diet is to produce an acidosis, which is supposed to have a defensive action. To produce acidosis, some protein foods and sodium chloride are forbidden, fresh meat and fish are restricted, and three times a day a heaping tablespoon of magnesium, strontium, sodium salts and phosphoric acid, etc., are given. Many diets, however, have been tried in tuberculosis and have passed on, and there still remains a great diversity of opinion. In order to clarify the situation, Hawes (*J. A. M. A.* 93:452, Aug. 10, '29) sent a questionnaire on the subject to the leading tuberculosis specialists in the country. Summarizing these opinions, he writes, "Luncheons between meals are rarely advisable. . . . Eggnogs in any form and at any time are . . . an invention of the devil. . . . A glass of milk at each meal is usually sufficient. . . . Fruit and colored vegetables should correct constipation. . . . There are no special foods that need to be emphasized. . . . Five or six glasses of water daily with and between meals are advisable. . . ." The influence of vitamin D in tuberculosis of children has been studied by Kramer et al. (*Proc. Soc. Ex. Biol. and Med.* 27:144, Nov. '29). One group of nine children were given 4 milligrams of irradiated ergosterol daily for four months, when the amount was increased to 7 milligrams for eight months. This and a similar control group were given the same well balanced diet; and all of the children had periodic physical examinations, urine analyses, roentgenograms, and blood phosphorus and calcium determinations. The children having vitamin D did not show any acceleration of the healing process, or an increase of blood calcium or phosphorus. The value of the Gerson-Hermannsdorfer diet to patients with tuberculosis of the skin was proved clinically by Bommer and Bernhardt (*Deutche med. Wochensch.* 55:1298, Aug. 2, '29). A general irradiation, in the form of sun baths, often appears to add to the favorable results of improved nutrition. Diet in tuberculosis, according to Weinshank (*Med. J. and Rec.* 131:14, Jan. 1, '30) should be based largely on the metabolism of the patient; and during the early stages when there is a loss of appetite, a special effort should be made, by making the food palatable, to induce the patient to eat. The opinion has an experimental basis from results obtained by making rats toxic with injections of tubercle bacilli and observing the response of the animals to different kinds of food. On the other hand, Chlebnikow (*Beitr. z Klin. d. Tuber.* 71:216, Jan. 24, '29) believes that the assimilation of carbohydrate in tuberculosis is an important factor in treatment, as many of the patients have an alimentary hyperglycemia; and an excess of carbohydrate in the diet of subcompensated patients has a detrimental effect.

The study of the effect of rachitic diets on experimental tuberculosis in rats has been continued by Grant (*Am. Rev. Tuber.* 21:102, Jan. '30). In one study, he found that the addition of cod liver oil to diets which have been very deficient in vitamin D makes the animals even less resistant; and the addition of calcium and vitamin D does not retard the development of tuberculosis. In another article (*Ibid.* 21:115, Jan. '30), the author states that the resistance to tuberculosis was decreased by a prolonged disturbance in the balance between calcium, and vitamins C and D of the diet. A prolonged excess of vitamin D hastens the spread of tuberculosis through the lungs. And the substitution of vitamin C for D at the time of inoculation tends to increase the infection of the lungs.

XI. DEGENERATION, DISEASES, AND OBESITY

As the trend of medicine is advancing today, the profession is likely to be divided into two groups, the counsellors of health who, by educating and getting periodical checks on those they are caring for, attempt to keep them in an improved state of well-being and free from incapacitating diseases; and the practitioners of medicine, who by a knowledge of disease apply aids to restore a physical wreck.

The early incidence of degenerative diseases is becoming more and more recognized as the result of wrong living. Langstroth (*J. A. M. A.*

93:1607, Nov. 23, '29) takes this point of view in writing on the relation of the American diet to degenerative disease. From a study of the food selected by five hundred patients with hypertension, myocardial degeneration, arthritis, gastro-intestinal disturbances, and migraine, he found too much bread, cereals, potato, and sweet desserts. The corrective diet advised consists of about two thousand calories, and is generally composed of milk, eggs, meat, vegetables, and fruit. In applying this diet to many of those with degenerative diseases, the investigator found that a majority of them were relieved of symptoms and improved in health. In a short article, Einhorn (*Med. J. and Rec.* 129:569, May 15, '29) writes on the importance of diet in the treatment of disease. In acute disease, a fluid food is indicated. In chronic disease, an adequate diet must be given. Dietary fads sometimes bring about conditions endangering life. Overnutrition creates metabolic disturbances and causes gout, arthritis, corpulence, diabetes mellitus, etc. A temporary diabetes mellitus has been produced in healthy human beings by a diet elaborated by Frank and Leiser (*Med. Klin.* 25:1841, Nov. 29, '29). The diet is composed of sufficient calories, but is deficient in carbohydrate and protein. All of the healthy persons had tolerance tests, and then, in groups of three or four, were put on the diet for about three, seven, or fourteen days. The diabetic symptoms were usually most severe on the second day of the diet, but the hyperglycemia and glycosuria were the most marked in those remaining on the diet for the longest period.

In the treatment of obesity, Evans and Strang (*Am. J. Med. Sci.* 177:339, March '29) believe that patients are most benefited by marked reduction of food, carried on over a few months. The amount of food is about 7 calories per kilogram, or 600-700 calories. At the end of the period of restriction, the patients are allowed to eat what they want, and do not gain in weight. The endocrine, as well as the alimentary type, yields to these measures; and irritability, headaches, high blood pressure, and menstrual disorders are relieved. The Nature of Obesity, by Newburgh and Johnson (*J. Clin. Invest.* 8:197, Feb. '30) is an interesting and instructive article on this subject. They write "Obesity is always caused by an inflow of energy that is greater than the outflow," and that it is brought about in two types. The first and largest group is the outcome of perverted habit, and those in this group over-indulge in food in order to continue longer the pleasures that come with eating. "The mental make up of these people resembles that of chronic alcoholics." In the second group are those who, when taking a great deal of exercise, meet their caloric requirement, and continue with the same habits when relegated to a swivel chair occupation. The authors have also noted that when obese persons are put on a very restricted diet they fail to lose for a week or two, and explain that this disorder may be due to an alternate hydration and dehydration accompanying the steady destruction of tissue, and that in weighing these persons, the fluid imbibed and excreted should be taken into account. In the treatment of obesity, Modern and Johnson (*California and West. Med.* 28: May '29) also allude to water restriction in the obese and meet it by diminishing the sodium chloride intake to two grams a day. Acidosis is met by an adequate amount of carbohydrate. A diminution in the size of the heart has been noted by Scharpff (*Deutch, Ar. f. Klin. Med.* 165:1, Sept. '29) in the reduction of obese patients. The treatment also brought about a lowered blood pressure.

The development of fatty degeneration of the liver and kidneys of dogs on a deficient diet has been observed by Sebrell (*Pub. Health Rep.* 44:2697, Nov. 8, '29). On a diet composed of corn meal, casein, lard, cod-liver oil, and a salt mixture, to produce black-tongue, each one of eight animals developed degenerative lesions. The fat in the liver replaced the parenchyma to such an extent in some animals that little normal tissue could be seen. The kidneys were not enlarged but yellow; the spleen appeared to be atrophied; and the heart muscle pale and flabby.

XII. HEALTH HABITS, AND LONGEVITY

The American Indian in his primitive environment was generally regarded as a superlative type of physical fitness, but by governmental segregation he has generally become a physical degenerate and subject to a high morbidity and mortality. An article by Guthrie (*Pub. Health Rep.* 44:945, Apr. 19, '29) describes the health of this people. Only a few of pure Indian stock remain, for the majority of the 225,000 under government supervision contain strains of negro or Caucasian blood. The principal problems of ill health in the Indian are tuberculosis, factors responsible for a high infant mortality, and trachoma. The general cause of these diseases is lack of hygiene. In his primitive state, the Indian was equally unsanitary, but by a roving life in the great waste spaces, he frequently changed camps and left behind the weak and sickly. A lack of immunity may be a factor. Finally, an inadequate and poorly balanced diet makes these people less resistant to disease.

A survey has been made by Emerson (*J. A. M. A.* 90:1434, May 5, '28) of the health habits in a women's college. This was determined by having the students, by classes, answer twenty questions on erroneous ways of eating and living; such as worry, irregular hours of rest, habitual over-eating, eating sweet stuff between meals, irregular defecation, insufficient exercise, and fresh air, etc. One might think that health progressed with scholastic education, but this was not the case; for the seniors had a much higher percentage of erroneous ways than the freshmen. Between the two classes, there was a dif-

ference of 38% in insufficient exercise and sunlight, a 19% increase of worry; 12% in irregular hours of rest; more than 10% in the eating of candy and sweet stuff between meals, etc. The results point out that the greater the students' knowledge of health, the less it is practiced; and, while health knowledge is considered the most important of any plan of education, its application is the poorest. Health and Scholastic Attainment is the title of a study made by Diehl (*Pub. Health Rep.* 44:3041, Dec. 13, '29) on five hundred students in the University of Minnesota. To determine the health, thorough examinations were made on two groups: one, on probation on account of poor scholarship, and the other, of students in good standing. The significant defects found in the probation group were extreme deafness, overweight, weak musculature, and anemia; and seeming defects were underweight, asthenia, obesity, and faulty posture. Many more students of good standing were self-supporting, and went to bed later than those on probation. Murray (*N. E. Jour. Med.* 200:1321, June 27, '29) from an investigation of health in industry points out that by the expenditure of a few thousand dollars for a dispensary, a full time nurse, and a part time physician, the company saves a much greater amount. The value of the work consists largely in having periodic health examinations of the employees so that minor defects may be found and remedied.

The energy and protein content of foods regularly eaten in a college community has been examined by Benedict and Farr (N. H. Ag. Ex. Station Bull. 242, May '29). Most of the foods consumed were analyzed in an oxy-calorimeter, by means of which the protein and calories of breads, cakes, salads, soups, desserts, sundaes, milk shakes, candy, etc., were exactly determined. As another part of the survey, the meals served at several eating places were similarly examined. A few tests were made on the total food consumed in one day by one person. Numerous tables of these examinations make the study detailed. A somewhat similar investigation has been carried on experimentally in dogs by Cowgill (*Am. J. Physiol.* 85:45, May '28). Twelve dogs were given as much food as they desired of an artificial ration. All of them ate liberally until a certain weight was reached by each animal; then the food intake became very variable, but the body weight remained remarkably constant. Some of the animals were then given food of a much greater energy content, but they ate less food, although the same number of calories. This selective action for the maintenance of a constant body weight is called caloric adjustment. And the total metabolism valves of the dogs of different size were in fairly constant relation to their body surface areas.

The influence of food on longevity has been observed experimentally with rats by Sherman and Campbell (*Proc. Nat. Acad. Sci.* 14:852, Nov. '28). In the investigation, one group of two hundred animals were fed diet A and a similar group diet B. Both diets were of the same composition of dried whole milk, ground whole wheat, and table salt, but B contained 1/6 more milk and 1/6 less wheat than diet A. All of the animals died naturally. After eight hundred days of diet A, 4.3% of the males and 17.2% of females were living, but with diet B, for the same period 13.8% of males and 20% of females existed.

AN AGREEMENT BY MANUFACTURERS OF ARTIFICIAL LIMBS

The following announcements were made by the Federal Trade Commission on June 30, 1930:

Stipulation No. 542:

"Copartners manufacturing artificial limbs signed an agreement to stop circulation of undated testimonials in connection with alleged portraits of customers wearing artificial limbs purchased from this company, in such a way as to suggest to the public that the testimonials are of recent date and that the wearers of the limbs represented are still living, when such is not the fact. The company also agreed to cease distributing imposed or 'faked' cuts, calculated, when taken in connection with the accompanying testimonials, to confuse the public into believing that the individuals so pictured were photographed in places and surroundings, or engaged in occupations, other than those which actually existed, or that such individuals are still living, when such is not the fact."—*National Better Business Bureau.*

WEEKLY HEALTH INDEX

Telegraphic returns from 65 cities with a total population of thirty million for the week ending July 5, indicate a mortality rate of 10.4 as against a rate of 10.3 for the corresponding week of last year. The highest rate (24.9) appears for Memphis, Tenn., and the lowest (5.7) for Youngstown, Ohio. The highest infant mortality rate (23.5) appears for Spokane, Wash., and the lowest for Canton, Ohio, Duluth, Minn., Schenectady, N. Y., and Tacoma, Wash., which reported no infant mortality.

The annual rate for 65 cities is 13.3 for the twenty-seven weeks of 1930, as against a rate of 14.3 for the corresponding weeks of 1929.

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL
and the
PETER BENT BRIGHAM HOSPITAL

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 16291
EPISTAXIS LASTING A WEEK

MEDICAL DEPARTMENT, PETER BENT BRIGHAM HOSPITAL

This case is published through the coöperation of the staff and administration of the Peter Bent Brigham Hospital.

A Filipino cook aged twenty-nine, single, entered the hospital complaining of backache of one month's duration.

The family history is unimportant.

Past history. He lived in the Philippine Islands until four years before admission. For the past four years he had lived in Massachusetts. It was impossible to obtain a history of any previous illness.

Present illness. One month before entry he was thoroughly chilled on a long automobile ride. That night he felt feverish and was kept awake by a deep, dull, burning ache in the thoracic portion of his back. The pain was persistent, being most marked in the left portion of the back. At times it radiated upward to the neck and head. He continued to work, however, until one week before admission, when he became nauseated and vomited several times. It was then that he first noticed blood streaked sputum. He developed also a slight but unabated epistaxis which had continued more or less constantly, being most marked during mornings. At times he had raised small clots of blood which seemed to come from the posterior nasopharynx. He went to bed for three days, then attempted to resume his work, but because of pain, epistaxes, morning headache, loss of appetite, lassitude, and increasing dyspnea on exertion he decided to enter the hospital.

Physical examination showed a well developed and well nourished Filipino lying quietly in bed supported by a back rest. He presented a somewhat worried and anxious appearance, but seemed in no distress. His lips were pale; the skin of fine texture, hot and dry; the nose filled with dark red crusts; the breath heavy; the tongue and gums red but not bleeding; the pharynx injected. The eye grounds were pale, but there was no edema of the discs. In the right eye there was what appeared to be a linear hemorrhage which overlay the edge of the disc for a very short distance. The heart was very moderately enlarged. There was a forceful impulse in the fifth interspace 9 centimeters to the left of the midsternal line. Aortic second sound greater than pulmonic second. No thrills or murmurs. Blood pressure, systolic 158, diastolic 90. The lungs were clear and the abdomen negative. There was no lymphadenopathy. The reflexes were normal.

Clinical and laboratory notes. The temperature varied from 97° to 99° F. and was usually slightly subnormal. The pulse ranged between 70 and 90, usually about 80. The respirations were 20. The admission specimen of urine was clear, amber colored, acid, specific gravity 1.008, albumin the slightest possible trace, no sugar. The sediment showed 3 to 5 white cells, 20 to 30 red cells and a rare hyaline cast per high power field. Subsequent urinalyses showed the specific gravity to vary between 1.014 to 1.018, with a trace of albumin, usually a few white cells, a few red cells, but no casts. The hemoglobin was 35 per cent, red blood cells 2,500,000, leukocytes 9200, differential count 70 per cent polymorphonuclears, 27 per cent lymphocytes and 3 per cent eosinophiles. The platelets appeared normal. The serum showed negative Wassermann, Hinton and modified Hinton reactions. Two stool examinations were negative. Several specimens of vomitus were brown, with positive benzidine test, no free acid, and a total acid of 95. No sputum was obtained.

Course. The epistaxes continued. At times he vomited clotted blood. Usually he was restless. Gradually he became drowsy, apathetic and disoriented. Seventeen days after admission his respirations suddenly ceased without any warning.

CLINICAL DISCUSSION

BY RICHARD C. CABOT, M.D., AND M. W. FULTON, M.D.

The first disease that comes up for discussion is chronic nephritis. I do not see how we can exclude it. On the whole it seems more probable than anything else I can think of. At first he had a good deal of backache. Later he complained of headache. I suppose that he would not have come in for treatment if it had not been for the epistaxis. In chronic nephritis the patient often has periods of nosebleed. But I cannot remember any case in which the patient had such persistent epistaxis from chronic nephritis. The recorded blood pressure is not so high as we expect it to be in chronic nephritis. We may suspect that he has lost a great deal of blood and that the blood pressure had been higher. His anemia might be from hemorrhage, from chronic nephritis, or both. I do not know of any way we can decide that. If he did not die of chronic nephritis—as on the whole I think he did—he might have died of some blood disease with a lack of platelets whereby he bled to death.

But if I understand it rightly he did not bleed much after he got here.

DR. M. W. FULTON: The bleeding was rather constant, in small amounts.

DR. CABOT: It does not seem as if he lost enough blood after he got here to account for his death. We have no evidence of a subnormal platelet count. Very few people can count platelets with any accuracy. We can judge fairly well from the smear and we usually let it go at that.

I do not see how we can seriously consider any infectious disease. The only infectious disease that could be considered at all so far as I see is tuberculosis. We have no good reason for considering that. He certainly could not have died of syphilis without more evidence of that disease. With such a blood picture as is here reported he cannot have died of leukemia, pernicious anemia, or any other blood disease that I can name. So I come back to the point I started from, unable to think of any plausible diagnosis except nephritis. The urine shows definite fixation of gravity, between 1.014 and 1.018 in the latter course. The other features of the urine and the blood are compatible with the diagnosis of chronic nephritis. If it is not chronic nephritis I do not know what it is. I can make no plausible counter suggestion.

A STUDENT: Would you consider scurvy?

DR. CABOT: I think not. Of course that produces hemorrhages, but I do not see how we could make a diagnosis of scurvy without more evidence than this. We have no knowledge of any such dietetic restrictions as we have to suppose for scurvy.

A STUDENT: Would you consider lung flukes?

DR. CABOT: I wish I knew more about that disease. We hear more about it in China or Japan than in the region from which this patient came. Apparently no blood came from the region in which we are looking for it,—the lungs. I have never heard of lung fluke that killed a man with nosebleed.

CLINICAL DIAGNOSIS

Chronic nephritis.

DR. RICHARD C. CABOT'S DIAGNOSIS

Chronic nephritis.

ANATOMIC DIAGNOSES

Chronic glomerular nephritis.
Bronchopneumonia.

PATHOLOGIC DISCUSSION

BY S. BURT WOLBACH, M.D.

Our diagnosis was chronic nephritis. It was the end result of one or two or numerous exacerbations of glomerular nephritis. There was moderate bronchopneumonia. Most of the lung lesions had the characteristics of those produced by hemolytic streptococci.

NOTE: In order to arrive at his diagnosis in this case Dr. Cabot did not ask for any other laboratory findings than are recorded. It may be of interest to the reader, however, to know that at entry and four days later the 'phthalein excretion was zero. The blood urea nitrogen concentration at entry was 139 milligrams per 100 cubic centimeters of blood, rising to 288 milligrams shortly before death.

CASE 16292

RECURRENT COLICKY PAIN, CHILLS AND ABDOMINAL DISTENTION

MEDICAL, SURGICAL AND ROENTGENOLOGICAL DEPARTMENTS

An American business man twenty-nine years old entered March 10 complaining of abdominal discomfort of nine weeks' duration and colicky pains preventing sleep for three nights.

Four years before admission he began to have a "lumpy sensation" in the midepigastrium about once a month three hours after meals, somewhat relieved by soda and completely and immediately relieved by vomiting. This continued for six months when he was working at night and eating very heavily. He developed a hernia. Four years previously he had had one on the other side cured by treatment. A gastro-intestinal series done in this hospital was negative. The hernia was reduced at another hospital. He had no stomach trouble for six months and was fairly free from it until ten months before admission. Then he began to have shaking chills an hour or so after luncheon, lasting for an hour and a half, forcing him to go home. On going to bed he would have drenching sweats. He thought he did not have fever. After vomiting he would have complete relief. He had four of these attacks at intervals of two months of complete freedom. The last chill was two and a half months before admission. Nine weeks before admission he began to have a fairly generalized feeling of distention all over his abdomen on getting up in the morning, when fairly marked seeming to concentrate in the midepigastrium. A small breakfast made him feel better, but toward the middle of the morning the discomfort would return and last until the evening meal. Often this gave relief, but the trouble invariably returned later in the evening. It sometimes interfered with his sleep. He had been nauseated only a few times and vomited only twice with relief. He had grown progressively paler. His bowels, previously perfectly normal, became very constipated. For six weeks he had not had a bowel movement without catharsis. For three weeks his stools had been watery whether he took laxatives or not.

X-ray examination with a barium meal in the Out-Patient Department of this hospital February 18 showed the esophagus and stomach apparently normal. The duodenum was deformed during a considerable part of the examination, but it could be filled out with pressure and no fleck could be demonstrated. "The appearance is that of irritation of the duodenum. It could be due to an early ulcer."

Ten days before admission he began to have colicky abdominal pain relieved by belching or passing flatus and somewhat relieved by soda. Three days before admission this colic became much more constant and worse at night, causing much loss of sleep. The night of March 8 he had one attack of colic. After that he had a fairly good night and for the next twenty-four hours felt perfectly well. March 10 he entered the hospital. That night he had a mild attack of colic. An hour or two after supper on March 11 he had some colicky pain and at midnight was wakened by epigastric pain. He was nauseated and vomited with much relief. The morning of March 12 he felt very ill, with gas, epigastric discomfort and mildly colicky pain.

The family history is not significant.

He had an anal fistula with abscess two years before admission. Eight months before admission he had trench mouth. He had urinated twice at night of late. Recently examination of his blood has shown some anemia. He was a little dyspneic on exertion.

Clinical examination showed an emaciated young man with pale, sallow, dry, scaly skin, —no real icterus. There was no proper diaphragmatic excursion. A peculiar dull tympanitic note was heard over the upper half of both chests. There were intact hernial scars with little or no bulging on cough. Rectal examination was negative except for small hemorrhoidal tabs. The finger nails were very cyanotic. The fingers showed possible clubbing.

Before operation chart normal, urine not remarkable, hemoglobin 60 to 65 per cent, reds 4,580,000 to 6,000,000, polynuclears 67 to 80 per cent, two or three shadow cells in each field, the other red cells normal except for occasional moderate achromia. Hinton negative. Stool normal.

A surgical consultant reported, "The history is that of an obstructing large intestinal lesion. The patient has obviously lost much weight. No mass is felt on abdominal examination. There is an indefinite sense of resistance in the left side of the pelvis on rectal examination. This may be a tumor or a distended loop of intestine. There is moderate intestinal distention tonight. The diagnosis hinges largely on the gastrointestinal series—whether obstruction is due to intrinsic or extrinsic causes. Malignancy must be thought of."

X-ray examination March 13 showed nothing remarkable in the heart shadow or the diaphragm. The hilus shadows were moderately thickened. There were suggestive areas of calcification at the lung roots. Plain films of the gall bladder and examination by the Graham test showed no definite variation from the normal. Films of the urinary tract were normal. A barium enema showed the colon in the usual position, normal in outline except at the cecum, where there was a suggestion of slight concavity on its inferomedial aspect. (See Plate I.) The cecum also showed intermittent spasm. It could be moved. The terminal ileum did not fill. The appendix was not visualized. The patient complained of tenderness over the region of the appendix.

X-ray examination with a barium meal showed the stomach to be normal in outline and position. There were no filling defects or constant irregularities. The duodenum filled readily and was normal in outline. At twenty-four hours the barium administered by mouth was retained in dilated loops of small bowel. These loops were in the lower abdomen and had the appearance of ileum. There was a large amount of gas in this small bowel. A film taken at twenty-eight hours showed very little progress of the barium. Conclusions: "All the organs examined were found to be negative except the cecum and terminal ileum. There is definite evidence of obstruction to the small bowel, probably near the ileocecal valve. This could be due to an inflammatory process or malignancy."

At forty-eight hours the terminal ileum was apparently empty and barium was scattered from the cecum to the rectum.

Intradermal tuberculin tests at twenty-four hours:

1:5000, 1 centimeter, pink, slightly indurated.
1:7500, ¾ centimeter, pink, slightly indurated.
1:10,000, 1¼ centimeter, pink, slightly indurated.
1:12,500, ½ centimeter, pink, slightly indurated.

At forty-eight hours: redder, more angry looking, no change in size.

Discussion

BY AUBREY J. HAMPTON, M.D., RICHARD B. KING, M.D., AND REGINALD SMITHWICK, M.D.

Dr. Hampton: In the X-ray examination of this patient it seemed remarkable that the plain film of the abdomen showed only a very small amount of gas in the small bowel high up on the right side above the transverse colon and the hepatic flexure. The search for the site of obstruction is usually begun in this hospital by taking a plain film of the abdomen. We next proceed, as in this case, to do a barium enema so as to avoid if possible the administration of barium by mouth. The only evidence of pathology in the colon was as described above and the absence of gas in the terminal ileum about

the cecum was rather misleading. The stomach was examined without a motor meal at the time of the Graham gall bladder examination and we failed again to demonstrate the site of obstruction, since there was no motor meal in the terminal ileum. The motor meal examination, however, had been done at another hospital and reported negative. The routine twenty-four hour film showed the typical picture of obstructed terminal ileum. For demonstration of small bowel pathology the technic of the radiograph is different from that of the usual colon and stomach radiograph in that the exposure time must be one-half second or less. The films shown were taken in one-fifth of a second through the Potter-Bucky diaphragm. The negative gastro-intestinal examination done only a few days previously and the absence of gas in the terminal ileum may indicate that the obstruction was intermittent.

Dr. King: In looking back over this man's history the most significant statement is that he had shaking chills followed by drenching sweats. He had four of these at extraordinarily wide intervals, and they must have meant definite sepsis somewhere. Too little attention was paid to this statement and too much to his gastric symptoms with their relief from soda, so that when we got an X-ray report of an irritable duodenum, the chills were forgotten and ulcer treatment instituted. As soon as the patient began to experience definite attacks of abdominal colic, the ulcer diagnosis became untenable and further investigation was carried out.

The intradermal tuberculin tests were made in an attempt to get evidence as to whether his intestinal lesion was tuberculous or not. We used high dilutions from the laboratory at Saranac, New York. This lot of tuberculin was "standardized" by determining at what arbitrary dilution individuals with proved active tuberculosis would react positively, contrasted with negative reactions at the same dilution in normal adult controls. This patient was tested at the very beginning of our series, subsequent tests having shown that with our particular lot of tuberculin much higher dilutions are required before one can conclude as to the activity of the individual's tuberculous state. At the present writing we are beginning to feel that a patient who gives a positive reaction to a dilution of our tuberculin of 1:17,500 should be regarded as having active tuberculosis.

Dr. Smithwick: When the patient was seen about twenty-four hours before operation he was obviously the picture of a low, fairly complete intestinal obstruction. There was moderate generalized abdominal distention. The patient was having frequent severe cramping pains referred to the lower abdomen in the midline. The character of the pain suggested large intestinal involvement.

At operation the small intestine was very much hypertrophied. There was a mass the size of a billiard ball on the brim of the right side of the pelvis to which the terminal eight inches of the ileum was adherent. This inflammatory mass was fixed in the side of the pelvis and involved the cecum up to and beyond the ileocecal valve. The terminal eight inches of ileum was greatly distended and stuck down in the pelvis. The bladder was adherent to this mass. It was impossible to remove the mass; therefore a lateral anastomosis was made between the ascending colon and the ileum about a foot proximal to the ileocecal valve.

The surgeon noted: "Partial intestinal obstruction secondary to a large inflammatory mass in the right side of the pelvis involving the small and large intestines and bladder and probably due to a subacute appendix."

The patient made an excellent postoperative recovery. March 29 he was discharged relieved.

It is hoped that the inflammatory process will resolve itself in the course of time, although it may be necessary to remove the cause of the inflammatory mass, which seems to be an appendix rather than anything else. The negative tuberculin test makes us feel that it is not a tuberculous process, and the location and character of the mass make it unlikely that it is due to a lymphoma or some similar involvement of the lymphatic system.

At the present time, three months after operation, the patient is back at work, gaining weight and free from symptoms. There is no evidence of a mass either by abdominal or rectal examination.

DIAGNOSIS

Chronic intestinal obstruction.

PLATE I. Note concave filling defect in cecum.

PLATE II. The characteristic appearance of dilated and obstructed small bowel is well shown.

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THE COSTS OF MEDICAL CARE

THOSE who are interested in the work of the Committee on the Costs of Medical Care—and that means all of us—should study carefully Chairman Wilbur's address at the Committee's spring meeting this year. The Committee has now completed its first three years of work; Dr. Wilbur reviews what has been accomplished and contemplates the work ahead.

The Committee, since it was organized in May, 1927, has developed a research staff of nine outstanding individuals, and has secured the coöperation of eight national agencies and of many state and local health departments and visiting nurse societies who are contributing services valued at over $315,500. For the first year and a half a budget of $62,000 was raised; for the calendar year the budget is $212,000 of which $150,000 has already been secured. A program of approximately thirty-five studies has been developed, of which six have been completed and published. It is planned to publish one report per month from October, 1930, to June, 1931.

The task of the committee, as Dr. Wilbur points out, is one of great difficulty and magnitude. In his own words, "There is a unique revival of what I call saddle-bag medicine in this period of great scientific, industrial, administrative, and economic advance. One reason why the physician has remained in a peculiarly unsatisfactory relationship to our economic system is that he must have a unique and individual personal relationship to his patient. One cannot start in on the chain store method of handling medical subjects and have satisfaction given the customer. And yet, unless an adequate economic system is devised, the training, skill, and time of the doctor is sacrificed, and the opportunity of the patient to secure all that he can from the great pool of medical information that is at our disposal is diminished."

Some of our failures in advancement are reviewed; demonstrations of the possibility of diminishing the general costs of medical care. Thus: one million persons are sick with malaria each year. We know that we can get rid of this disease if we are willing to pay the price.

Seven hundred thousand persons are sick with tuberculosis at any one time, most of it preventable.

There are still hundreds of thousands of individuals in the South affected with hookworm disease.

Gonorrhoea and syphilis are handicapping thousands.

We still have 30,000 to 100,000 cases of smallpox each year.

We had approximately 26,000 cases and 5,700 deaths due to typhoid fever in 1928.

There were 89,000 cases and 8,300 deaths due to diphtheria in 1928.

Probably not more than 20% of the people go regularly to dentists; this failure results in much unnecessary suffering and pain.

Other weaknesses in our present system of medicine are the extensive employment of inferior types of treatment—chiropractors, osteopaths and the like; the increasing migration of physicians from the country to the city; the inadequacy of personnel and financial support among health departments, and the custom among physicians of doing a great deal of free work.

Three fundamental principles were proposed by Dr. Wilbur and adopted by the committee, as follows:

1. The personal relation between physician and patient must be preserved in any effective system of medical service.

2. The concept of medical service of the community should include a systematic and intensive use of preventive measures in public health work.

3. The medical service of a community should include the necessary facilities for adequate diagnosis and treatment.

PROFESSOR CLERC'S COURSE IN CARDIOLOGY

THE announcement will be found on another page* of a course in cardiology to be conducted in October by Dr. Antonin Clerc at the Hospital Lariboisiere in Paris. So many are the opportunities now being offered for postgraduate study abroad that the prospective student may well have difficulty in selecting those which are of undoubted value. Professor Clerc, who speaks excellent English, may be counted as the best cardiologist in France, especially since the practical retirement of Vaquez from active work.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

SWAN, CHANNING S. A.B., M.D. Harvard 1923. Assistant Urologist Massachusetts General Hospital. Visiting Surgeon Long Island Hospital, Boston. Associated with Dr. J. H. Cunningham in the practice of Urology. His subject is: "Operation on the Lone Kidney". Page 104. Address: 46 Gloucester Street, Boston. This paper is discussed by:

O'NEIL, RICHARD F. M.D. Harvard 1897. F.A.C.S. Associate Urologist, Massachusetts General Hospital; Associate in Urology, Graduate School of Medicine, Harvard University. Page 105. Address: 374 Marlborough Street, Boston.

RILEY, AUGUSTUS. A.B., M.D. Harvard 1907. Assistant Professor Genito-Urinary Surgery Harvard. Associate Chief Genito-Urinary Department Boston Dispensary. Assistant Visiting Surgeon, Boston City Hospital. Consultant in Genito-Urinary Surgery Symmes Arlington Hospital and Malden Hospital. Page 106. Address: 868 Beacon Street, Boston.

BIEBERBACH, WALTER D. M.D. University of the South Medical Department, Sewanee, Tennessee 1904. F.A.C.S. Urologist Worcester City Hospital, Fairlawn Hospital, and Louis Pasteur Hospital. Page 106. Address: 36 Pleasant Street, Worcester, Mass.

HOWARD, HERBERT H. B.S., M.D. Harvard 1912. F.A.C.S. Senior Surgeon, Boston City Hospital. Consultant in Urology, Jordan Hospital, Plymouth; Somerville Hospital, Somerville; Leonard Morse Hospital, Natick and Framingham Hospital, Framingham. Page 107. Address: 270 Commonwealth Avenue, Boston.

COLLINGS, CLYDE W. M.D., University of Oregon Medical School, 1919. F.A.C.S. Instructor in Urologic Surgery, New York University and Bellevue Medical College; Chief of Urologic Clinic in same. Adjunct visiting Urologist, Bellevue Hospital. Visiting Urologist, Doctor's Hospital; Consulting Urologist St. Joseph's Hospital, Far Rockaway. His subject is: "Fibrous Obstruction of the Vesical Outlet". Page 107. Address: 983 Park Avenue, New York City. This paper is discussed by:

CHUTE, ARTHUR L. M.D. Harvard 1895. F.A.C.S. Associate Professor, Tufts Medical School: Genito-Urinary Surgeon, St. Elizabeth's Hospital, Brighton; Consulting Urinary Surgeon, Newton Hospital, Newton; Leonard-Morse Hospital, Natick; Somerville Hospital, Somerville. Page 111. Address: 352 Marlborough Street, Boston.

DEMING, CLYDE LEROY. A.B., M.D. Yale 1915. F.A.C.S. Associate Clinical Professor of Urology, Yale University. Page 111. Address: Yale University, New Haven, Conn.

PAPAS, PRODROMOS N. A.B., M.D. Harvard 1914. Genito-Urinary Surgeon, Boston Dispensary; Assistant Urologist, Massachusetts General Hospital; Consulting Urologist, Massachusetts Eye and Ear Infirmary; Teaching assistant in Genito-Urinary Surgery at the Harvard and Tufts Medical Schools. Page 111. Address: 467 Commonwealth Avenue, Boston.

HEPBURN, T. N. A.B., A.M., M.D. Johns Hopkins, 1905. F.A.C.S. Urologist, Hartford Hospital, Hartford, Consulting Urological Surgeon, New Britain General Hospital, New Britain, Conn., Rockville General Hospital, Rockville, Conn., Charlotte Hungerford Hospital, Torrington, Conn., Manchester General Hospital, Manchester, Conn., Meriden General Hospital, Meriden, Conn., and Bristol Hospital, Bristol, Conn. Page 112. Address: 179 Allyn Street, Hartford, Conn.

CHAMBERLIN, H. A. M.D. Tufts 1913. F.A.C.S. Consulting Urologist, New England Hospital for Women and Children. Assistant Consulting Urologist, Cambridge Hospital, Cambridge. Surgeon to Urological Department, Boston Dispensary and Hospital for Children. Page 113. Address: 520 Commonwealth Avenue, Boston.

GRAVES, ROGER COLGATE. A.B., M.D. Syracuse University College of Medicine 1918. Urologist to the Carney Hospital; Genito-Urinary Surgeon to the Pondville Hospital; member of the consulting staff of the Brockton, Quincy and Winchester Hospitals. Member of American Association of Genito-Urinary Surgeons. Secretary of New England Branch of American Urological Association. Page 113. Address: 12 Bay State Road, Boston.

CROSBIE, ARTHUR H. A.B., M.D. Harvard 1906. F.A.C.S. Consulting Urologist Cambridge Hospital and St. Elizabeth's Hospital. Chief Urologist Boston Dispensary. Page 113. Address: 520 Commonwealth Avenue, Boston.

DR. RICHARD F. O'NEIL and DR. GEORGE GILBERT SMITH also discussed Dr. Collings' paper.

SMITH, GEORGE GILBERT. A.B., M.D. Harvard 1908. F.A.C.S. Urologist, Massachusetts General Hospital and Palmer Memorial Hospital. Surgeon, Huntington Memorial Hospital. His subject is: "A Comparison of Results Following Suprapubic and Perineal Prostatectomy". Page 114. Address: 6 Commonwealth Avenue, Boston.

*See page 142.

BURNETT, FRANCIS LOWELL. S.B., M.D. Harvard 1906. Graduate assistant Massachusetts General Hospital, in Dermatological Department. Graduate assistant Peter Bent Brigham Hospital in Arthritic Clinic. His subject is: "The Progress of Nutrition". Page 118. Address: 205 Beacon Street, Boston.

MISCELLANY

A CIRCULAR OF INFORMATION ISSUED BY THE DARTMOUTH MEDICAL SCHOOL, HANOVER, N. H.

June 6, 1930.

To the Alumni and Friends of the Dartmouth Medical School:

During the reunion last June there was an expression of considerable interest in the future of the Medical School in fulfilling its educational rôle of training general practitioners. While this question has been under discussion for the past several years, it has seemed obvious that the reëstablishment of the third and fourth years of the curriculum of the Medical School depends upon additions to the facilities for the handling of the clinical material of the Mary Hitchcock Memorial Hospital.

For many years, and particularly during the last several years, there has been a steadily growing use of the Hospital with, consequently, an increasing demonstration of its inadequacy to meet the demands placed upon it. With the growth of the personnel, of the staff, and of the equipment and the ever-increasing tendency of the public toward hospitalization, there is a need for expansion of the Hospital which can no longer be ignored—a condition which was briefly outlined in the letter of a year ago. Thus this situation becomes of considerable interest to medical alumni and to those interested in the future of the Hospital and Medical School.

Figures may help to show what has been taking place. In 1910 the Hospital provided 12,395 patient days of service. In 1915 it supplied 18,295; in 1920, 18,741; in 1925, 20,911; in 1927, 25,253. In 1928, the opening of Dick's House, which freed the Hospital from the necessity of caring for students and members of the faculty, was expected to afford considerable relief for the Hospital for several years. But in that same year, without any College patients, the Hospital use still increased over the previous year—providing 26,305 patient days' service in addition to the 4,098 of Dick's House, giving a total of 30,403 days. In 1929 the Hospital patient days figure went to 28,116 and Dick's House to 4,226, making a total of 32,342. The point of interest is that in 1928 and continuing in 1929 the capacity of the Hospital was increasingly taxed over the figure of the year 1927, in spite of the fact that it had been freed of the necessity of providing hospital care for the College.

It is impossible to continue indefinitely to increase this figure without an increase in the size of the physical plant of the Hospital, because the institution is now operating for many months of the year at an average capacity in excess of the normal capacity. Therefore, any increase in this figure can result only if the additional demand happens to coincide with a period when the population of the Hospital is below the average.

The Mary Hitchcock Memorial Hospital is now rated as 135 beds; is approved by the American College of Surgeons; and is the only hospital in the State on the list of approved hospitals for internships as supervised by the American Medical Association. There is now under way a considerable effort to provide means for its enlargement. Through the very generous gift of Mr. and Mrs. William S. Carter of Lebanon, New Hampshire, a new X-ray building is now under construction, which will include complete equipment for both radiographic and therapy work. This department will be in charge of Dr. Leslie K. Sycamore who is at the present time assistant roentgenologist at the Massachusetts General Hospital in Boston.

Plans have been prepared for the development of a new wing which would be built to the east of the present operating room, to contain a first floor for laboratories, a second floor for the housing of the new operating rooms, and a third floor for a new children's ward. It is proposed that the old operating room be rebuilt into two floors of wards for the housing of the obstetrical department. In this program there will also be an isolation ward. To the east of this wing provision would be made for a new boiler house and laundry, which would be necessary at the time of any further increase in size of the Hospital. An addition must be made to the Billings-Lee nurses' residence to provide housing facilities for an increase of thirty persons to the nursing personnel.

This program calls for a financial outlay of approximately $290,000. It is questionable whether such a sum can be raised in this countryside. It is the expectation that some of these units will be established as memorials by individuals interested in the situation. The increase in the service facilities proposed in this program would be sufficient to care for not only the thirty beds which are included in the present figures but also fifty additional beds which could therefore be built in the future at a much less per bed cost because the necessary service facilities would have been anticipated. Thus eventually a total expansion of about eighty beds would be possible. These plans have been drawn up with a view to creating a practical operating unit considering both these and any future additions.

The summary of this plan can be stated as follows:

1. X-ray—Cost $40,000—Gift of Mr. and Mrs. Carter.
2. Laboratories floor—Cost $25,000—Already anonymously provided contingent on the execution of the complete plan.
3. Operating floor—Cost $50,000.
4. Children's ward—Cost $30,000.
5. Isolation ward—Cost $25,000—Already anonymously provided contingent on the execution of the complete plan.
6. Addition to Billings-Lee nurses' residence—Cost $40,000.
7. Boiler house and laundry—Cost $40,000.

8. Obstetrical ward (reconstruction of old operating unit)—Cost $45,000.
9. Indebtedness on kitchen and service construction 1928—Cost $40,000.
10. Contingent sum—Cost $25,000.

This definite information about the future program of the School and Hospital is presented to all of our alumni in answer to the request of the group which was present at the reunion last year in June. At that time there were several members of the Association who expressed their willingness to help in the realization of these aims either personally or by presenting them to interested individuals who might be in a position to make them immediately possible. It is hoped that these plans will provide something tangible upon which to work.

JOHN P. BOWLER, *Dean.*

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY GOLF ASSOCIATION TOURNAMENT

On Thursday, June 26, thirty-one doctors met at the Arlmont Country Club, Arlington Heights and formed the Middlesex South District Medical Society Golf Association.

Dinner was served at 1 P. M. Following this was a short business meeting at which the following officers were elected: President, C. T. Warner, Marlboro; Vice-President, W. T. O'Halloran, Newtonville; Secretary-Treasurer, S. M. Biddle, Cambridge.

The tournament consisted of eighteen holes medal play with full handicap.

The prize winners were as follows:

Low gross: W. T. O'Halloran—87.

Second gross: N. M. Hunter—88.

Low net: F. H. Paul—66.

Second net: E. F. Sewall—67.

The prize for highest score was won by R. N. Ganz; B. T. Loring had the most strokes on one hole and H. W. Godfrey the longest drive from the first tee.

The club proposes to hold a spring and fall tournament each year.

Ample notice will be given for the fall tournament so those who were unable to attend have something to look forward to.

Everybody had a good time and the prizes were well worth winning.

The secretary sent notices only to those known to him as golf players. All interested doctors should forward names of prospective entrants.

A FEW FACTS ABOUT THE ADAMS NERVINE

Miss Lilian J. Payson, Miss Corinne Wallis, Mr. Edward W. Grew, Mr. Ingersoll Bowditch, Mr. John R. Chapin, Mr. Samuel Eliot, Mr. Frederick M. Burnham and Mr. W. L. Richardson compose the visiting committee for the summer months at the Adams Nervine, 990 Centre Street, Jamaica Plain.

This institution was founded 50 years ago by the will of the late Seth Adams of Newton. It is for the benefit of nervous people of Massachusetts who are in need of the care and relief which they may obtain at such an institution. Rooms are provided for 36 female patients.

Many socially prominent people visit Adams Nervine every month and show their interest in the unusual work that is being accomplished by Dr. Edward B. Lane.

The officers of Adams Nervine are Edward W. Grew, president; Andrew J. Peters, vice-president; Bernard C. Weld, secretary; and John R. Chapin, treasurer.

THE SEARS MEMORIAL BUILDING ADDED TO THE BEVERLY HOSPITAL PLANT

The new children's building which has been given to the Beverly Hospital by Mr. and Mrs. Philip S. Sears in memory of their son, David, was dedicated Sunday afternoon July 13, 1930. The furnishings for this unit were donated by Mr. and Mrs. Mason Sears. This building is built of brick and is equipped with the most modern furnishings, is a one story structure but can be enlarged by additional stories.

It contains a general ward and four private rooms. Twenty-six patients may be accommodated.

A LIST OF IRREGULAR PRACTITIONERS

The New York City Health Department has compiled a list of twenty-five thousand manufacturers and pedlers of "allegedly" fake remedies. According to Commissioner Wynne this compilation includes those who are regarded as irregular throughout the United States. This work covered a period of six months. The original purpose was to eliminate questionable broadcasting on medical matters. A majority of the radio stations has agreed to eliminate such questionable publicity.

PRISONERS IN FEDERAL PRISONS WHO VIOLATE THE PROHIBITION AND DRUG ACTS

Twenty-five per cent. of all prisoners received into the Federal Prisons during 1929 were violators of the National Prohibition Act and an equal number for violations of the Federal Drug Act.

THE VREELANDS, INC.

FRAUD ORDER AGAINST BALDNESS CURE

On June 24, 1930, a postal fraud order was issued against The Vreelands, Inc., and Clayt Vreeland at Cleveland, Ohio. This concern was engaged in the sale of a shampoo and a preparation for "growing" hair called "Hairherbs" the formula for which was claimed to have been discovered by Clayt Vreeland some years ago. Vreeland, who is not a physician, chemist or pharmacist, claimed to have grown his own hair with "Hairherbs" and frequently embodied in his advertising what purported to be two pictures of himself, one showing him with a luxurious growth of hair and the other, labeled "Here Is How I Used to Look," depicting the scalp in an extremely bald condition.

Vreeland's advertising also contained such statements as "Bald Men Grow Hair Quick", in bold type and represented that "Hairherbs" succeeded where "hair tonics" fail in that "it gets under the skin, right down into the hair follicle itself, and supplies nourishment to the one vital spot where nourishment must be supplied to cultivate a growth of hair."

The government introduced the testimony of medical experts that "Hairherbs" if used as directed, will not and cannot grow hair "quickly" or otherwise, nor will it "get under the skin" and nourish the roots of the hair, stop the hair from falling out without regard to the cause, or succeed "where hair tonics fail". Many customers of Vreelands' were induced to purchase a chemical device for heating "Hairherbs" although the testimony showed that the heating of the preparation before using would not add to its value. Extravagant and unwarranted claims were made for the shampoo.

Vreeland featured a money-back guarantee in his advertising (see bulletin 304) and we quote from Solicitor Donnelly's memorandum to illustrate its ramifications:

> "The arrangement with regard to refunds has the effect of leading persons to believe that if they purchase a bottle of 'Hairherbs' and it is unsatisfactory they may obtain a refund of the purchase price. Upon applying for a refund, however, purchasers are promptly informed that the 'refund guarantee' provides that refunds will not be made until after the expiration of a *nine months'* period. In all instances where a refund is requested the user is requested to try another supply of 'Hairherbs.' If he refuses to try any more of the 'Hairherbs' treatment, refund is ordinarily made after the expiration of the nine months' period provided the user does not overlook his opportunity to make a claim."—*National Better Business Bureau, Inc.*

NATION-WIDE FIGHT ON CANCER PLANNED BY SCIENTIFIC GROUP

A mass attack on cancer and other acute and inflammatory diseases amenable to radiation is to begin all over the United States, it was learned recently with the announcement of details concerning the formation of the Radiological Research Institute by a group of radiologists who seek to unite all scientists concerned with the problem in a great coöperative, non-profit making organization to promote the war on these ills.

One of the aims will be to bring about a reduction in the cost of radium and make radium treatment more accessible to the public. Under present conditions the treatment is beyond the means of the average man.

The institute has the indorsement of Dr. Joseph C. Bloodgood and Dr. Francis Carter Wood, two of the country's leading authorities on cancer.

The announcement was made by William W. Buffum, treasurer and general manager of the Chemical Foundation. Mr. Buffum said that while the initial funds obtained by the institute had been subscribed coöperatively by a group of radiologists, the Chemical Foundation, of which Francis P. Garvan is president, was prepared to back the institute in every way.

Realizing the tremendous importance of the establishment of the National Institute of Health recently created by Congress and made a reality by President Hoover, Mr. Buffum said, the radiologists decided to form a central research organization to coöperate with the new Federal institution and all existing research laboratories and institutions in the study of disease, especially cancer.

"Here will be begun new researches in the application of radium and x-ray in the treatment of cancer on a greater scale than ever before attempted," the announcement said. "One object of this group is to form a purely scientific, non-profit research institution whose object is not only to do research for the prevention and cure of disease, especially cancer, but also to cut down the enormous cost of medical care which now is almost impossible for the man of average means to get."

PURPOSES OF INSTITUTE

The functions of the Radiological Research Institute are given as follows:

To coöperate with the National Institute of Health and with all existing research laboratories and institutions in the study of disease, especially cancer.

To standardize and stimulate future development of x-ray apparatus, tubes and equipment.

To stimulate research in the cheaper production and more efficient use of radium.

To lower the cost of medical care, especially as related to the use of x-ray and radium.

To stimulate, encourage and develop research in the science of radiology as used in medical and industrial fields.

To collect, correlate and disseminate all scientific knowledge in the field of radiology, especially in its relation to cancer.—*N. Y. Times.*

(Miscellany continued on page 144)

CORRESPONDENCE

COMMENTS ON THE ARTICLES BY DR. JOSEPH H. PRATT AND DR. RAY LYMAN WILBUR

Editor of the *New England Journal of Medicine:*

I should like to quote from two recent communications which I think are very suggestive and give food for thought in these days when so much is being said on the costs of medical service.

The first quotation is from the admirable article by Dr. Pratt on "New Features of Clinical Teaching" published in your issue of July third, nineteen thirty. Dr. Pratt says, "In the Boston dispensary the policy prevailed of giving *financial* return in some form to the graduate assistants who are working daily in the medical clinic". In this

excerpt I wish to emphasize the statement that the physicians are *paid* something for their services.

The second quotation is from an address by Dr. Ray Lyman Wilbur, the chairman of the committee on the costs of medical care, delivered at the committee's spring meeting of this year and recently published in a pamphlet. He says: "There is the custom among physicians of doing a great deal of free work with the consequent need of charging higher fees for patients who do pay. This is one of the strange traditional relics of antique custom. Why physicians practice charity toward those unfortunate people who belong to the whole community is beyond the understanding of anyone except the doctor who has been accustomed to it and the people who have been taking it for granted. Nobody else does it and yet we go on with these complicated economic conditions at a time when conditions in many directions are compelling us to consider economics as never before. We have on the one hand much talk regarding the high cost of medical service and on the other hand many people who fail to pay their hospital and medical dues promptly, if at all. It would be possible to improve this chaotic condition very much if the whole business were handled intelligently."

Why in justice should not the physicians on the staff of our hospitals and dispensaries especially when they are municipal institutions, be paid for services rendered? The usual argument alleged that the prestige and experience gained by being connected with hospitals, is remuneration enough, seems to me unsound. In other occupations which are paid ones, both prestige and experience are often incidental results but they are not considered as compensation for actual work done. The question of how to render adequate medical service to the whole community is now under serious discussion and the physicians themselves have to a great degree the solution of the problem in their own hands. If they were paid a reasonable amount for their hospital services they could charge less in their private practice as Dr. Wilbur infers, especially in the case of specialists whose charges often seem prohibitive to the man of moderate income. There seems no reason why the private patient should thus pay indirectly for services rendered free to the community whose duty it is to pay for the medical care of their indigents.

The resident physicians like all other citizens pay taxes for the support of the municipal hospitals and dispensaries. Why in addition should a body of citizens, namely the physicians, be taxed by asking free services from them in their hospitals and clinics?

It is evident that changes are coming in the whole matter of medical service and unless the physicians have provision enough to recognize these changes and to be ready with wise, instructive plans on a modern economic basis, they may find that the lay-public may take the matter into their own hands.

EDWARD O. OTIS.

A CRITICISM OF STATEMENTS OCCURRING IN THE ARTICLE BY DR. S. B. WOODWARD

July 3, 1930.

In the issue of the *New England Journal of Medicine* of May 1, on page 851 a question is asked by Dr. Samuel B. Woodward of Worcester and North Grafton in his article entitled "Medical Ethics". Since the question refers to me, I think it fitting that I answer in the same *Journal*. However, I wish the question had been asked directly of me, then Dr. Woodward would have been quickly and clearly informed. I had not read the article until recently when a colleague called my attention to it some six weeks after its publication.

Dr. Woodward's question is as follows: *"I would like to know what B. L. I. stands for?"* The degree B. L. I. is designated by the initials which belong to the words Bachelor of Literary Interpretation. It stands for four years of study in dramatic art in the largest and oldest institution of its kind in America—The Emerson College of Oratory, Boston. The degree of this institution was made legal by an act of the Massachusetts legislature, and therefore has the same governmental approval behind it, as for example the degrees A.B., S.B., M.D., and so on, which are granted by Harvard University in Cambridge. Although my foundation speech training came from my specializing in neurology and studying under speech specialists in Germany who were neurologists, still as every doctor knows, there is no degree showing speech training but B. L. I. My degrees do not begin to show the extent of my training. They were used to show my special training over and above that of the ordinary speech layman.

I trust I have answered the Doctor to his satisfaction. Now I would like to ask him a question or two. Why did you not ask me personally what my degrees meant before holding me up to ridicule? Why did you omit my name and yet leave a very clear way to trace it? Why now, doctor, do you speak derogatorily of my ethics and call the goodness of my ethics a supposition? You did so in the words "the supposedly ethical gentleman from Boston". Are my ethics merely "supposedly so"? And again you use the terms about me "probably ethical in his practice". Are my ethics a "probability" only? Before you use such suspicious terminology, you should have written, and anyone else now can write and ask the proper authorities whether I am ethical or not. I do not fear the answer.

Again you say that my card too much "resembles" the card of a certain Chicago practitioner whose card shows no resemblance whatever, in fact his card is the opposite. What is the resemblance? I fail to see it and so do others. You say in your article it is unethical to speak in a derogatory way of your fellow practitioners (Page 848 last paragraph). "It is unethical to the last degree to make derogatory remarks about other physicians." As this is true, let me ask you why therefore do you *print* derogatory remarks about me?

If you find my degrees obnoxious to you and they

stagger your understanding of how they are necessary to cover the numerous phases of my medical specialty, let me ask you, who have such exalted ethical standards, know so much about God and quote poetry—how I feel as I wonder why you don't question yourself about trailing after your name the lay business firms of Worcester where you have such honorable connection, as for example in your biographical sketch of yourself in "Who's Who in New England".

WALTER B. SWIFT

PHYSICIANS LIABILITY INSURANCE FOR MEMBERS OF THE MASSACHUSETTS MEDICAL SOCETY

Boston, July 10, 1930.

New England Journal of Medicine.

Gentlemen:

The articles in the Boston papers of June 19 quoting from a speech by a member of the Bar at the Annual Meeting of the Massachusetts Medical Society in Plymouth, on June 18, are very interesting.

These articles lead one to believe that there were only 43 claims in Massachusetts in 1928, 44 in 1929, and 19 up to date in 1930. If my information is correct these represent the claims of one company in and around Boston *only* and not in Massachusetts. These figures do not include claims presented to our Company or those of two or three other Companies who still have a few policies on their books. How many claims these other Companies have had, we have no knowledge. Therefore, these figures are not correct and are very misleading.

The Agents of this company told me recently that they had no knowledge of the number of claims in Massachusetts, as all records were kept at the Home Office of the Company. In 1929 this Company refused to give any figures to a Committee of the Society.

In my opinion the publication of information of this kind through the press is not advisable.

We have just completed a detailed tabulation of all of our claims in Massachusetts. These statistics show that some specialities are much more susceptible to claims than others. We have a record of the premiums and cost of defense of all claims since 1921. It would be interesting for the Society to get detailed figures from all companies operating in Massachusetts. These figures, when compiled, will give the profession a complete story of true conditions in this state.

The statement, that the young lawyers were responsible for a great many suits has not been borne out by our statistics. We have kept a list of all lawyers who have entered claims against our clients and comparatively few of them are the younger attorneys.

In the issue of the *Journal*, of June 19, on page 1223, is a very interesting report of conditions in Connecticut. Two paragraphs, I am quoting here, express conditions in Massachusetts as well as in Connecticut.

"There seems to exist in the minds of many men a belief or an impression which we often hear expressed in these words: 'Let the Insurance Company pay. They have plenty of money.' Such an idea is absolutely incorrect. The Insurance Company does not pay. It is the policy holder, the one insured, who always pays.

"What actually happens in any form of insurance, be it life, fire, accident, liability or any other, is that a group of persons deposit with an insurance company a certain sum of money which the company agrees to administer in a certain way, the company receiving a just remuneration for its work. If at any time the amount deposited is not enough for the company to carry out the agreement, then the members of the group must contribute more money because the Insurance Company will be compelled to increase the rate on future insurance."

Unfortunately, too many lawyers and doctors have this feeling. I would suggest that everyone read this article carefully.

Yours very truly,

GEORGE H. CROSBIE.

A REQUEST TO HOSPITALS AND OTHERS

American Hospital Association
Incorporated 1920
Eighteen East Division Street
Chicago, Ill.
Bert W. Caldwell, M.D.
Executive Secretary

Dr. W. L. Burrage, Secretary
The Massachusetts Medical Society,
182 Walnut Street, Brookline, Mass.

Dear Dr. Burrage:

We are requesting hospitals and all others who participated in the celebration of National Hospital Day this year to send in their material for the contest for award to be given for the best demonstration of display. The material will be displayed in the booth at the Convention in New Orleans.

Will you please devote some space in your magazine, urging participants to send in to us, their material as soon as possible?

Thanking you for your coöperation, we remain

Very truly yours,

JOS. R. MORROW, *Chairman.*

OBITUARY

MAURICE VEJUX TYRODE, M.D.

1878-1930

Dr. Tyrode was born in Besançon, France, on November 6, 1878, and was of pure French ancestry. He received both his general and medical education in Boston where he had lived ever since coming to America in 1886. When he took his degree in 1900, he was the youngest ever to be graduated from the Harvard Medical School. During the same year he held the Dalton Fellowship for research at the Mass-

achusetts General Hospital. In 1907, he married Miss Helen Clements of Brookline.

For a number of years, Dr. Tyrode was instructor of physiological chemistry, pharmacology and therapeutics at the Harvard Medical School, meanwhile continuing his practice in gastro-enterology and internal medicine, which he kept up after his resignation from academic duties and until the time of his death on June 4, 1930.

As a teacher in materia medica, Dr. Tyrode was noted for his clear and concise lectures and demonstrations, and for his ability to stimulate the individual interest of a student by his encouraging and enthusiastic guidance.

In his research work in pharmacology and physiological chemistry, he was a painstaking and accurate investigator, and his various publications on these subjects, both from the clinical and experimental standpoints, show a keen insight into the complexities of laboratory technique. In 1907 he was a delegate to the International Zoological Congress. In 1910 he was a member of the United States Pharmacopoeal Convention.

In addition to the two editions of his popular text book on pharmacology ("Pharmacology, Action and Uses of Drugs"), Dr. Tyrode's principal scientific work comprises publications on the purgative salts, the active principles of Jamaica dogwood and poison ivy, the action of camphoric acid, and an investigation of the action of strophanthus, besides various contributions on gastro-intestinal diseases. For several years he prepared the "Progress in Pharmacology and Therapeutics" for the *Boston Medical and Surgical Journal*. He was a member of a number of medical, scientific and natural history societies.

Besides his strictly medical interests, there were other aspects of Dr. Tyrode's activities which were known only to those who had the good fortune to be his intimate friends. He was a brilliant and accomplished linguist, having a knowledge of nine languages, was very fond of outdoor life, especially hunting, fishing, and botanical excursions, was intensely interested in anthropology and in that "universal and public manuscript", natural history. In his many foreign travels, he frequently turned aside from the beaten paths of the ordinary tourist, in trips to South and Central America, Syria, Egypt and North Africa.

As a physician he was kind, thorough, and sympathetic; experience was to him the great teacher in medicine and he was able to successfully apply his remarkable knowledge of the action of drugs to the various situations as they developed during practice. He was the true physician to whom can be applied the noble precept of Hippocrates, "Where the love of man is, there also is love of this Art."

I. H. C.

NOTICES

MEDICAL SPEECH CLINIC

Walter B. Swift, M.D., opens the usual Medical Speech Clinic, July 7-August 1, 1930.

Hours 10-12 A. M. Monday, Wednesday and Friday for free treatment of the following cases: Stammering, Lisping, Cleft Palate, Phonetic Defects, Monotone, Absent Speech.

Hours 10-12 A. M. Tuesday and Thursday for free treatment of the following cases: The Deaf, The Partially Deaf, Cases who cannot sing, Aphasia, Aphonia, Dislalia, Paralyses.

Evening readings of papers on Speech Disorders, feeblemindedness and mental superiority. Hours 7-9 July 18, 1930 and 7-9 August 1, 1930, by W. B. Swift and his class of summer students.

Physicians, nurses, social workers, psychologists, and medical students all invited. No fees charged.

Subjects of the papers:

1. The New Cause and Best Cure for Stammering.
2. The Psychology of Habit Formation.
3. From Freudianism to Conscious Complexes.
4. Speech Defects as local asthenias.
5. What social workers need to know about speech.
6. A pathognomonic Speech Sign of Mental Superiority.
7. Pathognomonic Speech Signs of Mongolianism.
8. How to Unspoil Children Who Refuse to Learn to Talk.
9. New Speech Signs of Dementia Paralytica.
10. Statistical Report of Omaha Speech Correction. 1929-1930.

Place of the meeting: Normal School for Speech Education, 110 Bay State Road, Boston.

PROFESSOR CLERC'S COURSE IN CARDIOLOGY

OCTOBER, 1930

Ward Rabelais, Hopital Lariboisiere
2, rue Ambroise-Paré

Dr. Antonin Clerc, Professor

A) Every morning, at 11 A. M.

October 20—Coronary obliteration in clinics and experimental pathology.
October 21—Practical demonstrations. A practical lecture on clinical orthodiagraphy will be delivered.
October 22—Syndromes operable to the pulmonary artery.
October 23—Practical demonstrations.
October 24—Clinical oscillometry.
October 25—Practical demonstrations.
October 27—Value and use of new diuretic and hypotensive drugs.
October 28—Practical demonstrations.
October 29—Ouabain in cardiac therapeutics.
October 30—Practical demonstration.

B) Every afternoon at 3 P. M.—Examination of patients: practical oscillometry-electrocardiographic records, etc.

Fee: 600 francs.

A certificate, signed by the Professor and the Dean

of the Faculty of Medicine of Paris, will be given after the course to every doctor who has attended it regularly.

For further information and registration, apply to the "Association pour le Développement des Relations Médicales", Salle Béclard, Faculté de Médecine, Paris (6e), or to Professor Clerc, 7, rue de Montchanin, Paris (17e).

Other subjects might be treated at the suggestion of the auditors.

DR. A. S. O'CONNOR IS LOCATED IN WORCESTER

Alfred S. O'Connor, M.D., has opened an office at 5 Linden Street, Worcester, Massachusetts.

REMOVAL

Dr. Rachel L. Hardwick announces the removal of her office to 270 Commonwealth Avenue, Boston.

SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

March-October — International Medical Postgraduate Courses in Berlin. Complete notice appears on page 853, issue of October 24, 1929.

September 8-12—Postgraduate week of Physical Therapy. Detailed notice appears on page 1025, issue of May 22.

September 14-18 — Fifth International Congress on Physiotherapy. Complete notice appears on page 906, issue of October 31, 1929.

September 26-27—New England Surgical Society. Detailed notice appears on page 1028, issue of May 22.

October 13-17—Clinical Congress of the American College of Surgeons. Complete notice appears on page 1175, issue of June 12.

October 27—The American Public Health Association. Detailed notice appears on page 1271, issue of December 19, 1929.

March 23-27, 1931 — Fifteenth annual clinical session of the American College of Physicians. Detailed notice appears on page 790, issue of April 17.

BOOK REVIEWS

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1929. With Comments that have appeared in the *Journal*. Cloth. Price $1. Pp. 81. Chicago: American Medical Association, 1930.

This is the volume in which the Council annually collects the reports on articles found unacceptable during the year. This edition contains also several interesting preliminary reports on preparations which show promise but for which the evidence is not yet sufficient to justify acceptance by the Council. Reports are given on the following products rejected by the Council: Anayodin, claimed to be iodoxyquinolinolin sulphonic acid (chiniofon) but marketed under a noninforming name without adequate statement of composition and with unwarranted therapeutic claims; Antiustio, an unscientific mixture marketed under a nondescriptive name with unwarranted therapeutic claims; Kerasol and Keraphen, unoriginal products marketed under non-informing names; Sodiphene, an unoriginal alkaline phenol preparation marketed under a proprietary name with unwarranted therapeutic claims; Borocaine, procaine borate under a proprietary name; Quicamphol (Transpulmin), a quinine preparation for intramuscular injection in the treatment of lobar pneumonia; Toxogon, a preparation of inadequately declared composition marketed under a therapeutically suggestive name; Intramuscular Iron Arsenic Comp. (No. 201) and (Intravenous) Iron Cacod. and Glycerophosphate (No. 202), two irrational and unscientific mixtures exploited with emphasis on the numbers. Other rejected products are: Ovoferrin, Tamerici Salts, Elixir Kacyan-McNeil, and Tablets Kacyan-McNeil. An authoritative article on serum disease and serum accidents by MacKenzie and Hanger is of considerable interest and timely importance.

New and Nonofficial Remedies, 1930. Cloth. Price, $1.50. Pp. 481; xlviii. Chicago: American Medical Association, 1930.

The present edition contains all of the features that have in the past made New and Nonofficial Remedies such a reliable and efficient guide to the physician who wishes to inform himself on the newer medicinal preparations: logical classification of preparations, with authoritative articles on each class; complete and carefully written descriptions of preparations; elaborate indexes; and a useful cumulative list of references to the literature on articles not accepted by the Council. Among the more important revisions that appear in this edition are those of the general articles, Barbital and Barbital Compounds, Digestive Enzymes, Cod Liver Oil and Cod Liver Oil Preparations, Ovary, Pituitary Gland, Radium and Radium Salts, and Serums and Vaccines. Among the new preparations descriptions of which appear for the first time in this edition are: Bismarsen, which is sulpharsphenamine bismuth; Dial-Ciba, which is diacetylbarbituric acid; Calcium Gluconate-Sandoz, a more palatable and less irritating preparation of calcium; Atoquinol-Ciba, a cinchophen derivative; Pitocin and Pitressin, solutions respectively of the oxytocic and pressor principles of the pituitary gland; Viosterol (the Council name for irradiated ergosterol) in the forms of Viosterol in Oil 100 D, which is irradiated ergosterol dissolved in vegetable oil, and Cod Liver Oil with Viosterol 5 D, which is cod liver oil with its vitamin D potency enhanced by addition of viosterol. While these new preparations (with the possible exception of Viosterol) do not constitute major additions to the physician's armamentarium, each one gives promise of relative usefulness, and the physician who desires to keep abreast with the progress of therapeutics will familiarize himself with them as well as with the many other new preparations described in this valuable book.

Modern Otology. By Joseph Clarence Keeler, M.D., F.A.C.S., Professor of Otology, Jefferson Medical College, Philadelphia, etc. F. A. Davis Company, 1930. Price $10.00.

This first edition of Modern Otology contains 856 pages divided into 12 parts of 45 chapters, with 90 original illustrations and 15 colored plates.—It is beautifully printed with large legible type.

The volume is outstanding in that it presents the recent advances in otology, taking cognizance of

the large mass of new material that has been the result of recent studies. The arrangement is orderly. Chapter I deals with Comparative Embryology. Then follow chapters devoted to anatomy, physiology and technic of examination of patients. Seventy-nine pages are devoted to intracranial complications, presenting modern methods of diagnosis and treatment. The description of the Gradenigo syndrome is the best appearing in any text book. The final chapter deals with Medico-Legal Otology and will be particularly welcomed by those called upon to treat industrial cases. The author includes a bibliography to each section; and the index comprises 37 pages. This book should be a success.

Obstetrics for Nurses. By JOSEPH B. DE LEE, A.M., M.D., Chicago. Philadelphia and London: W. B. Saunders, Company, 1930.

Previous editions of this standard text-book of obstetrics for nurses, first published in 1904, have been favorably reviewed in the *Journal*. This ninth edition, revised and reset, embodies also Dr. Kosmak's syllabus for teaching obstetrics, adopted by the American Gynaecological Society; but Dr. De Lee's book is fuller than this and is therefore adaptable not only to teaching but for reading and reference as well. The illustrations, of which there are two hundred and sixty-eight, have nearly all been done over by Felix Eisengräber of Munich, and one colored plate has been added. Emphasis is placed on the home care of patients, but hospital methods are also given in full detail. The chapter on infant feeding has been rewritten by Drs. Abt and Feingold. The book exemplifies well the author's known precision and accuracy of attention to detail, and should continue to be a valuable text-book in training schools for nurses.

International Medical Annual. 1930. 48th Year. William Wood & Company. Pp. 598. Price $6.00.

The new volume of this excellent annual résumé of medical progress continues to present in succinct and lucid form the outstanding developments in all the important phases of general medicine and its specialties. The remarkable thing about this group of reviews as compared with other similar "annuals" is the great scope of the work, and yet the infinite and entirely practical detail in which each phase is considered. In addition to synopses which give the main points of what the reviewers consider the outstanding articles of the year, there are interesting editorial comments, and profuse references to original sources.

It is seldom that one reads a book so difficult to criticize adversely, or so easy to commend in the highest terms to the many who find it hard to keep abreast of the voluminous present-day literature.

MISCELLANY

(Continued from page 139)

MUSTARD GAS MAY BE A PREVENTION OF CANCER

Among the strange suggestions respecting the prevention of cancer, the effect of mustard gas is stimulating research work at Leeds University and is apparently somewhat cautiously endorsed by the *London Times* as shown by the opinion that mustard gas seems "to be the first true anticarcinogenic agent ever discovered". This opinion seems to be based on the application of mustard gas to the skin of animals and then applying the cancer producing tars with the alleged result that cancer does not develop in the areas so treated.

Even with this demonstration Sir Charles Gordon-Watson, senior surgeon to St. Bartholomew's Hospital, states that mustard gas has no power to modify existing cancer.

SWISS MEASURES TO CONTROL TUBERCULOSIS

A Swiss Federal law designed to check tuberculosis has been enacted. It provides that doctors will be obliged to inform the authorities of all cases of tuberculosis and if any deceased patient has been in contact with other people the doctor must also state whether death was due to tuberculosis.

School teachers, nurses and pupils must submit to medical examinations and suspected houses must be inspected. Habitations which have been occupied by a tuberculosis patient will be regarded as unfit dwelling places until approved.

The law imposes heavy fines for failure to comply with its provisions.

THE HEALTH NEEDS OF NEW YORK WILL BE STUDIED

Governor Roosevelt plans to have a commission study the health conditions of the State of New York. A ten-year program will be arranged to coördinate all the health agencies in the broadest possible scope covering all problems of health and mental hygiene. To this end all public and private agencies, county and town health authorities will be brought into coöperative relations.

Seventeen years ago Dr. Herman Biggs carried on a health survey and corrective program and the present effort will be to meet the changing conditions in public health functions.